MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad, Mining, Contracting, Engineering, Building, and General Business Interests of the South and Southwest

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In This Issue:

Thomas A. Edison on Co-operation vs. Competition.

Vast Coal-Mining Operations in West Virginia.

Facts to Be Considered in Connection With Plans for Immigration to the South.

Eastern North Carolina as a Future Market Garden for the Country.

Alphabetical Index, Page 126. Classified Index, Pages 120 to 125. Classified Opportunities, Pages 84, 85 and 86.

THE MEASURE OF HEAT

The term British thermal unit (abbreviated B. t. u.), often confronts the user of coal.

As a yard stick is a measure of length, a B. t. u. is a measure of heat. The total amount of heat contained in a pound of fuel, all of which is liberated by complete combustion, is expressed in B. t. u's. A single heat unit is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit at atmospheric temperature. Heat units make steam and steam makes power.

Below are tabulated, from some of the highest scientific authorities, the heat values of the commoner combustibles contained in coal:

SUBSTANCE 8. t. u. Per Lb. 21,465 Acetylene Gas 23,515 Marsh Gas -21,345 Olefiant Gas 62,035 Hydrogen Gas 14,450 Carbon

Included in the "Volatile Matter" of proximate analysis.

"Fixed Carbon" of proximate analysis.

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Clinchfield coal is rich in Hydrogen and the Hydro-Carbon gases shown above. These "VOLATILE" gases burn above the fuel bed with rapidity and great intensity in close proximity to the boiler surfaces. Quick liberation of heat units means quick generation of steam; hence the economy in using Clinchfield coal which maintains boilers at high capacity easily and continuously, thus delivering more than the rated horse-power. Clinchfield coal ranges from 14,000 to 14,700 heat units per pound, because it contains small percentages of oxygen, moisture and ash, which are valueless, and large percentages of the combustibles highest in heat value.

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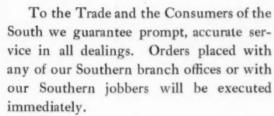
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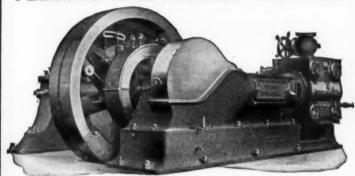
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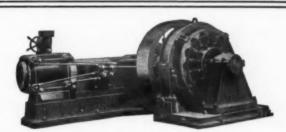


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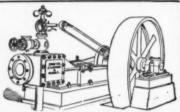
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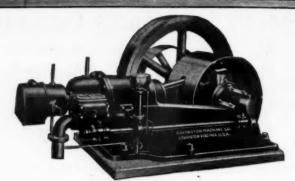
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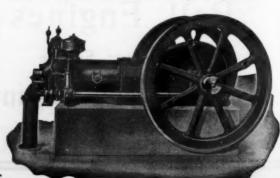
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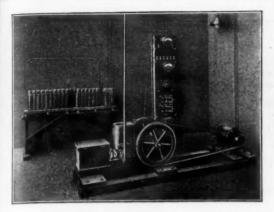
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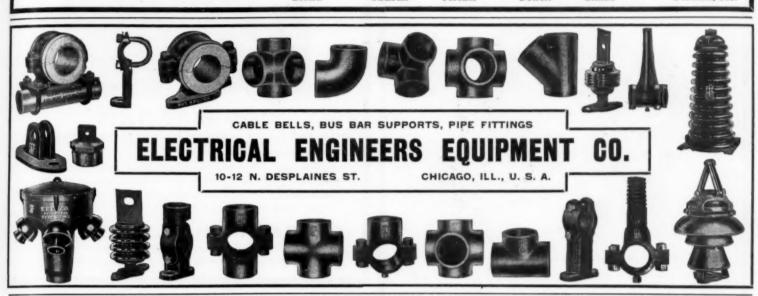
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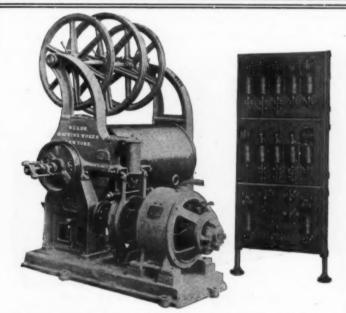
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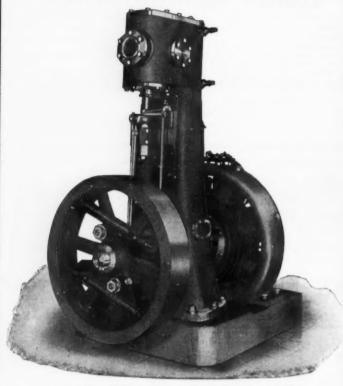
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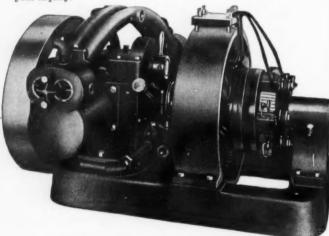
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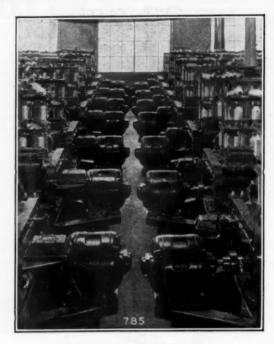
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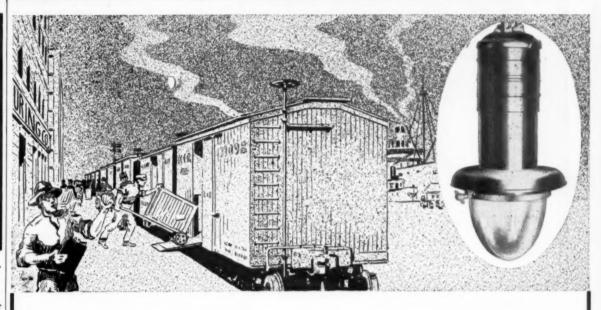


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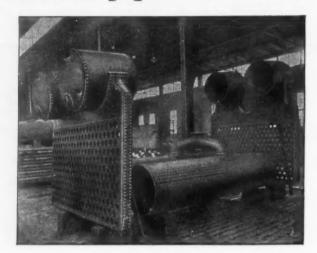
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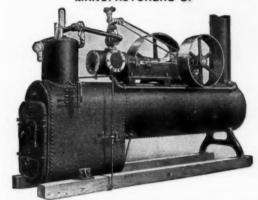
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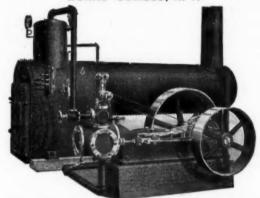
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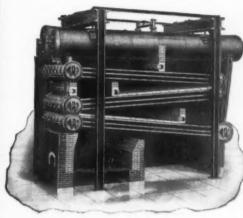
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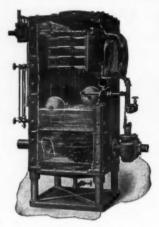
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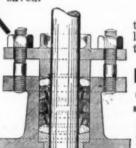


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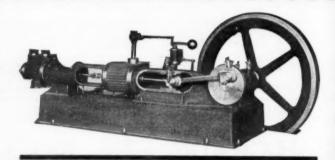
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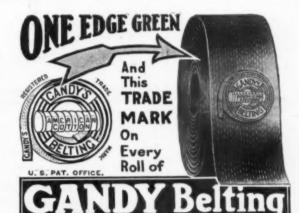
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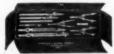
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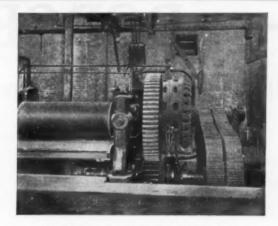


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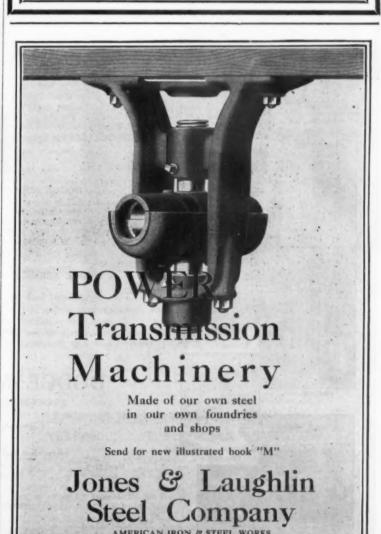
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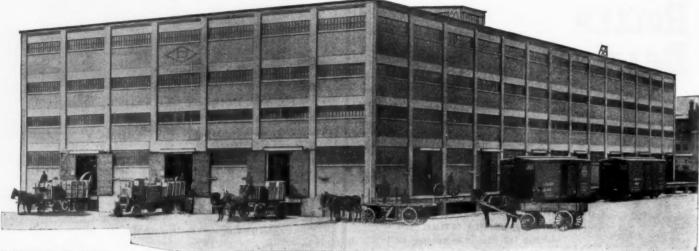
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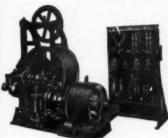
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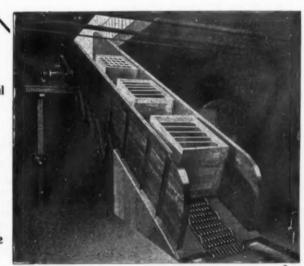
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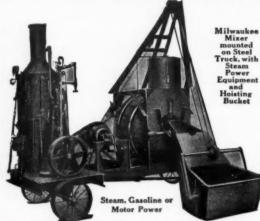
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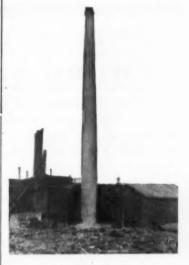
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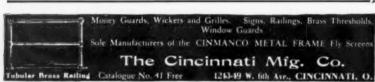
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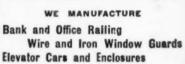
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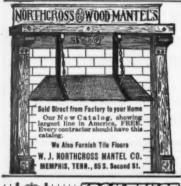
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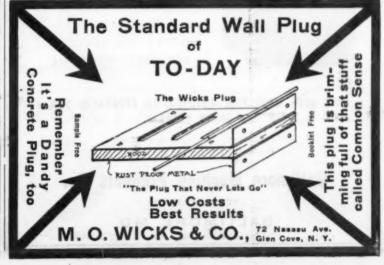
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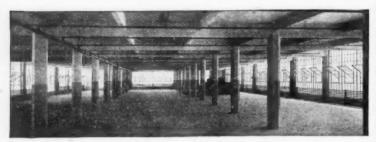
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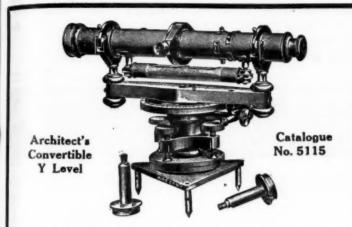
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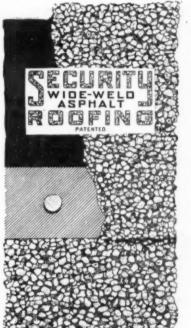
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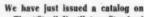
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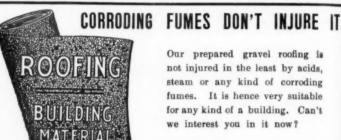
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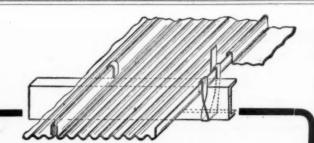
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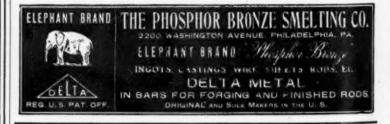
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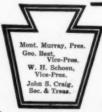
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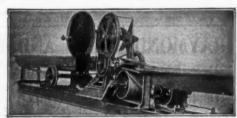
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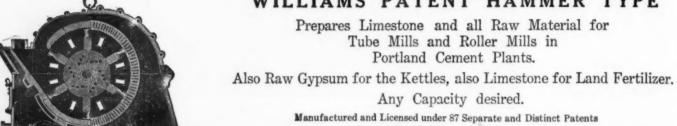
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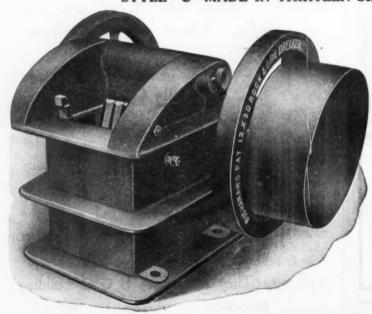


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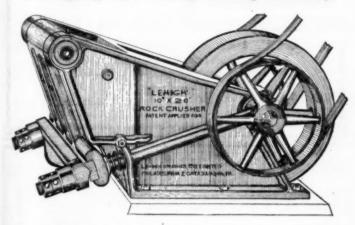
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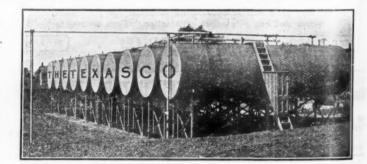


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Business Chances

In the "Classified Opportunities" department of the Manufacturers Record each week there are a large number of business chances of all kinds, many of which would probably prove of interest to you.

If you have not been reading them in the past it will pay you to keep in close touch with what these advertisers have to offer, as these announcements will undoubtedly often present suggestions for profitable trade openings.

See pages 84, 85, 86 in this week's issue.

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Ready for operation by simply con-necting to the electric circuit. Note the comparative size.



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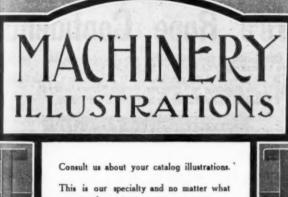
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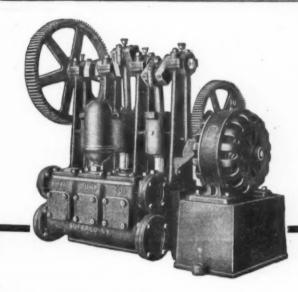
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Trade-Name Registered in the U. S. Patent Office

VOL. LX. No. 23.

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BALTIMORE, DECEMBER 14, 1911

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Manufacturers Record.

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BALTIMORE, DECEMBER 14, 1911.

A MAN OF VISION.

Thomas A. Edison is a man of originality of thought and action. In this issue, in an exceedingly interesting interview, Mr. Edison discusses co-operation versus competition; tells about the amazing prosperity of German industries: how a benevolent despot as typified in the German Emperor may do a country good; how legislation usually goes contrary to the effect intended; how Germany is establishing branch banks all over the world and capturing the world's trade; how 75 per cent. of all railroad freight is in one way or another hauled by horse-drawn vehicles: how the motor truck, occupying half the space and carrying twice the load at double the speed, is destined to supplant horse-drawn vehicles and lessen the cost of haulage, which in a city like New York is greater from the big stores to the depot than the railroad freight from the depot to Chicago, and many other things, all of vital interest to business men everywhere.

HIS WORK FOR THE SOUTH OF HIS LOVE.

One of the traits of Col. Alfred B. Shepperson, whose recent death in New York came with a shock to his friends in many parts of this country and in distant lands, was his devotion to the South and to his native State, Virginia. He was one of the men who, after gallant service on the firing line, felt moved after the collapse of 1865 to seek his fortune in another part of the country. But though an exile for 40 years, his loyalty to his home land never wavered, and the profoundity of it was manifested in many ways, and not in the least degree in selecting the high-

summer recreation of his family for many, many years. He was always prompt and enthusiastic to seize opportunities to use his pen in the promotion of the best interests of the South, and the series of "Cotton Facts" published annually by him since 1876, thorough, accurate, inclusive and authoritative, were something more than a mere aid to the business of men interested in all phases of cotton. Intimate acquaintphases of cotton. Includes ances of Colonel Shepperson could see between the solid lines of his statistics and in the body of the text illuminating the cotton situation the dominant desire on his part to further the South's agricultural and industrial progress. It was that trait which made him many friends in his adopted home and set him forth as a type of the Southern gentlemen who, by their personalities, have been of such service to their section, though they themselves were voluntary

SOUTHERN PETROLEUM IN 1910.

In 1910 the South, including Missouri and Oklahoma, produced 79,993,639 barrels of petroleum, or more than 38 per cent. of the 209,556,048 barrels produced in the United States, and 16,373,110 barrels more than the whole country produced ten years before. The production by individual States in 1900 and 1910 is shown in the following

States.	1900.	1910.
Kentucky*	62,259	468,774
Louisiana	1,602	6,841,395 3,615
Oklahoma	6,472	52,028,718
Texas	836,039 16,195,675	8,899,266 11,751,871
West Virginia	10,135,010	11,101,011
Total	17,102,047	79,993,639

*Including Tennessee, for which no production was recorded in 1910.

This comparison indicates the trend of petroleum development in this country away from the older fields toward the Southwest. Pennsylvania and New York produced 4,710,627 barrels less in 1910 than in 1900; Ohio, 12,446,460 barrels less; West Virginia, 4,443,804 barrels less, and Indiana, 2,714,667 barrels less, a reduction in the output of 24,315,558 barrels, and while the Kentucky-Tennessee production in 1910 was more than seven times that of 1900, it was 748.563 barrels less than in 1905. On the other hand, the Illinois production increased in the ten years from 200 barrels to 33,143,362 barels, the Kansas from 74.714 barrels to 1.128. 668 barrels and the California from 4.324,484 to 73,010,560, making that State the leader in the year's production, with Oklahoma second, Illinois third, West Virginia fourth, Ohio fifth, Pennsylvania sixth, Texas seventh, Louisiana eighth, Indiana ninth and Kansas tenth. Production in Oklahoma began on a small scale as early as 1891. but it was not until 1904 that an expansion took place there, and not until the development of the Glenn Pool was suddenly begun that Okiahoma took its

lands of Virginia as the place for the produced as high as 28,000,000 barrels a year, and Louisiana as high as 9,000,000 barrels.

"THE FAVORED REGION."

As part of the telling work for material development of the South that it has been doing for many years through its land and industrial department at Washington, the Southern Railway has issued an attractively ilustrated pamphlet of twenty-four pages into which is condensed for the benefit of homeseekers a vast amount of information about the opportunities offered in Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tensee and Virginia and Northern Florida. The pamphlet, which is entitled "The Southeastern States, the Favored Region in Location, Resources, Products and Opportunities," dwells upon the many advantages enjoyed by that section as to location in relation to the markets of the world, to the storehouses and minerals, to vast forests and to millions of acres of land awaiting the investment of the capital of mind, muscle and money. It takes the ground that with the completion of the Panama Canal, the farmers and manufacturers of these Southeastern States will occupy a commanding position as to factory and farm products demanded by the people of Latin-America: it tells of latitude and altitude as affecting climatic conditions, and gives authoritative facts about the sections, advantages for raising livestock and poultry, for dairying and for the growing of alfalfa and other forage plants, corn, wheat, apples, peaches and other fruit, cotton, tobacco, sugar cane, ricegrowing and truck, and of public schools and other facilities. The pamphlet, referring to the rapid development of the textile, iron and steel furniture and other woodworking industries, points to the water-powers, cheap fuel, the hardwoods, the fine clays, the various ores and other materials required by manufacturers, and to 90,000,000 acres of the land available for homeseekers in justification of the selection of the description, "The Favored Region." Any man who wants to get a general grasp of the essential facts about the great territory stretching from Maryland to the Mississippi River and from the Ohio River to the South Atlantic & Gulf Coast will find them briefly but comprehensively set forth in this pamphlet.

TOO BUSY TO BORROW.

In renewing his subscription to the MANUFACTURERS RECORD H. W. Dysart of Marion, N. C., says:

I cannot afford to do without it, and 1 have not the time to borrow it.

There are many thousands of borrowers of the Manufacturers Record throughout the South who would save money by saving time by subscribing to the MANUFACTURERS RECORD instead of borrowing. Mr. Dysart's suggestion in high rank in production. Texas has this respect is worth consideration,

IMMIGRATION-WHAT KIND AND HOW TO GET IT.

Governor Mann of Virginia, one of most broadminded men in the South, who has been working for the unbuilding of his own State, in an address before the conference in Baltimore last week on the subject of immigration to the South, said:

We want good people in my State, or none. We have got to be particular as to who we invite to our shores and our territory.

Governor Mann states exactly the views of the Manufacturers Record on that point. For nearly 30 years this paper has been working for Southern upbuilding; for the upbuilding which comes through development from within as well as from without; for the development of Southern natural resources and likewise the development of Southern labor to a higher state of efficiency, as well as for the upbuilding which comes from bringing into the South outside capital and the right class of outside men to the good of both.

We believe that no greater misfortune could come upon the South than to have this section flooded with the offscouring of Southern Europe-the people who leave their country for their country's good. There are millions of people in the North and West who are possible settlers in the South. Neither the railroads nor the States of the South have ever done one-half of what they ought to have done to reach these people. There are millions of people in Northern Europe whose coming to the South could be advantageous to this section as well as beneficial to themselves. We have done little to attract them. Here and there, from parts of Southern Europe, we may draw to advantage some settlers and unskilled laborers, but any movement, whether dominated and supported behind the scenes by foreign steamship lines for the purpose of bringing into the South a vast army of the unfit, which these steamship lines have for years been dumping into New York, threatening the very civilization of that city, or any movement on racial or other lines which seeks to mass these foreign people, whether from Russia or Italy. in the South, should be opposed by the intelligent, thinking people of the South with all their energy. That movements of this kind have been under way for some years, that the steamship companies handling foreign immigration have been active factors in encouraging conferences and conventions with a view to arouse in the South a demand for immigration, is, of course, known to all intelligent people who have been watching the game. The South needs a great increase in its population; it needs more laborers; it needs more mechanics; it needs more manufacturers; it needs more farmers who will take up diversified agriculture. There is room in the South for millions of such people if they are of the right kind. Their coming would be a blessing to them and would enrich the South. But It

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to the Chinese than to seek to draw from the congested districts of New York or from the European countries which have poured their undesirable elements into New York.

Whenever the railroads of the South. the States of this section and the business people generally are willing shoulder the responsibility of spending the money necessary to bring to the South the class of people needed, there will be no difficulty in getting them. But while the Union Pacific Railroad is spending nearly a million dollars a year to make known with consummate ability the attractions of the Northwest and the Pacific Coast, and leading railroads in the South, occupying a better territory, are, in proportion to their mileage, spending not one-fifth as much as that and other California roads are spending, it will be useless for them to look for results equal to those that are seen in the increase of population on the Pacific Coast. To the extent that the people of the South spend their time in conferences and conventions, of which the South has had a steady succession for the last 25 years, and none of which has ever yet produced any tangible results, money, time and energy are being wasted. In broad, glittering generalities the South constantly expresses a desire for an increase of immigration. But what kind does it want and where does it expect to get these immigrants? Very wisely, most of the people of the South prefer to do without immigration rather than have their section made the dumping ground for Southern Europe in order to lighten the load which much of Southern Europe carries in the character of the people that it tries to get rid of. If the South fully understood the moves of the foreign steamship lines which bring these people to this country, and realized that these lines have no other interest in the matter than to swell their passenger receipts by millions of dollars annually, it would be chary of many things it now accepts at face value.

Moreover, there are some facts that need to be carefully considered if people would think straight and intelligently on the subject. For the time being we certainly need no more cottongrowers in the South, and that, we presume, will be accepted without argument. We have demonstrated during the last year that the present farming population of the South given to cotton-raising can produce more than the world needs, and by so doing the Southern farmers have this year lessened their income as compared with last year's by at least a couple of hundred million dollars.

We do need, however, to develop a broader intelligence in the farming methods of hundreds of thousands of tenant farmers, white and black. We do need fruit-growers, truckers, dairy farmers and chicken-raisers, for in these things the South is woefully behind its opportunities.

More can be accomplished by develing the tenant and small farmers into an intelligent system of diversified agriculture than can be wrought by crowding the South with a foreign element, represented to a large extent by the undesirable classes which have been coming to our shores during the last few years, and who come not to be producers, but largely to live off the community. Thousands of foreigners could find profitable opportunities for diversified farming throughout the South, but hundreds of thousands of farmers now

in the South could be developed mentally and physically by intelligent, persistent work by landowners, States and railroads.

The South does not need to add to its present problems that of such an illiterate, immoral and lawless element as now crowds the East Side of New York and with its incessant bomb-throwing keeps alive a reign of terror in that section of America's greatest city.

It were better that industrial development and the settlement of the idle acres of the South should proceed less rapidly than that progress should be made by the destruction of our civilization through the overrunning of this section with the classes indicated, prought here by the influences at work. But there is no necessity for industrial development halting for lack of labor, nor for a failure to fully utilize our resources in soil and minerals. Enforced immigration, by the methods that are constantly being advocated, would ultimately prove a curse to the South and to the railroads, whereas immigration of the right kind, drawn to the South by intelligent work, by the wise and liberal expenditure of money in making known throughout the North and West unceasingly and everlastingly the advantages of the South, would be productive of great good. To the extent that we crowd the South with the undesirable foreigners we would drive the native Southerners to other sections, just as too large a foreign population in some Western States has driven native Americans to Canada or the Pacific Coast.

But the South must learn to do sev eral things before it can secure immigration of the kind needed or any other to the extent that its people desire. It must learn to recognize that the development of efficiency of its own people, white and black, on the farm and in the factory, difficult though it may be to bring about, is more important and will yield larger results than the bringing in of outside people. It must learn to utilize labor-saving machinery in every possible way in order to lessen the dependence on manual labor. It must learn that the labor problem on the farm and in the factory, and the servant problem in the home, are by no means confined to the South: they exist in every part of the United States. We have no monopoly on these conditions.

The South must learn, too, that cheap labor is not low-cost labor, but that, on the contrary, highly-paid labor is generally the cheapest labor.

Until the rate of wages for labor. skilled and unskilled, in the South, and salaries paid to clerks and to other employes, are as high as the same classes command in other sections but little progress will be made in drawing people to the South, except those who come because of climatic conditions in this section and the opportunity for outdoor life all the year round, in contrast with the opposite conditions in the North and in parts of the West. It is true that the cost of living in the South is cheaper than in other sections, but the day laborer, the skilled mechanic or the clerk would rather have a large salary than a small one, even though the latter brought him just as many comforts in living as the former. The energetic man who hears that he can go to the Pacific Coast and get twice as much salary as he is getting in the South will go there even though it costs him two and a half times as much to live. must, therefore, in the South, face the problem of steadily advancing the rate

of wages if we would draw a large population this way. We must encourage and pay for efficiency and faithfulness, whether of negro servants, of laborers, of mechanics or of clerks. Word must go forth into all parts of the country that there are not only great business opportunities in the South for the investor and the manufacturer, but that wages are good and that high salaries are paid. Then the energetic man of other sections will turn his face south-We may hold conferences and conventions till doomsday, we may banquet and talk till the end of time, we may appoint committees to discuss immigration and plan for immigrationand the South has been having such conferences and conventions and banquets and organizing such committees for the last quarter of a century-put until the fundamental facts here stated are worked out on sound business methods we will not secure the results de-

Governor Mann, of practical mind, recognizes the power of advertising and the importance of developing the people we already have, and in an interview in Baltimore said:

I have not determined as to what I shall ask of the Virginia Legislature. One thing I shall want is the appropriation for conducting an advertising campaign. I believe that each State should advertise itself. I would like to see thousands of dollars appropriated by my State Legislature for this purpose.

It would be money spent wisely. There are in Virginia 10,000,000 of acres of uncultivated farm lands. If we get the money to advertise and then do it, these lands will soon be occupied by thrifty farmers.

Then I would like to see my Legislature provide for a scientific farm demonstrator for every county in the State. These demonstrators should go about from county to county showing the farmers how to get the best out of their lands. This will do more than anything else in developing the lands already being tilled.

Governor Mann is absolutely right. He appreciates the value of each State doing its own work of publicity and promotion and of each conducting an advertising campaign on its own responsibility for the kind of people it wants. He likewise recognizes that the development of the tenant and poorer farmers now living in the State by scientific farm demonstration work in every county will do more by making prosperous the whole farming interests of Virginia than anything else to attract settlers from other sections.

We must develop our own people. We must advance scientific agriculture and diversified farming; we must increase the rate of wages paid to labor, skilled and unskilled, and then State, railroads and land operators must conduct a broad campaign of advertising through every first-class daily paper and every good farm paper and every reputable magazine in the North and West if we are to secure the settlers we need and whose coming can be brought about by intelligent work rather than conferences and conventions.

WORKING FOR THE SOUTH'S UP-BUILDING.

Two letters, typical of many that reach us every day, tell of the rapid material development of the South and the influence which has been exerted by the work of the Manufacturers Record in bringing about these conditions. H. A. Camp, President of the Pole Stock Lumber Co., Hattiesburg, Miss., manufacturers of yellow pine, in commending the recent article in the Manufacturers Record by Capt. J. F. Merry on the

increase of wealth in Mississippi and Louisiana in diversified farming, says:

The writer has been a subscriber and a constant reader of your paper for more than twelve years, and has been so much interested in it that when he returns home from a trip he does not feel like he has seen all of the family until he has gotten hold of the MANUPACTIREES RECORD, in case it should come in his absence.

I believe that the MANUFACTURESS RECORD has done more to attract people and money to the South than any other paper published in the country.

We are now having a great number of home-seekers and farmers arriving here every few days buying our cut-over lands, building houses and preparing the land for planting a crop in the early part of 1912. We are very much encouraged over the rapid development of this particular section, and we give a large portion of the credit to the earnest columns of the MANUFACTURESS RECORD.

From W. E. Wimpy of Georgia comes a letter giving some interesting facts about a remarkable advance in real estate values in city and country. Mr. Wimpy says:

You will please mail my MANUFACTURESS RECORD to Clarkston, Ga., in future. I am lost here without it. I take all three of our Atlanta papers, and they are good ones, too, but when I want to read of progress and affairs of my own State and her sister States I could better do without my home papers than the MANUFACTURESS RECORD. One main reason for buying a mill front here on the Georgia Railroad, where I am now building my home and cutting some 10,000 cords of pine wood off, improving my property, has been the reading of the MANUFACTURESS RECORD. It has also caused me to buy last May over four square miles in middle Georgia that I would consider it an insult for one to offer me double for it today what I patd.

I have found the statements in the MANU-FACTURERS RECORD not only sane, progres sive, sound and true, but good to follow.

The investments I made in Atlanta since I have been reading the MANUFACTURES RECORD will go way over \$100,000, and all of them have more than doubled. For instance, where I bought for \$400 per foot I have sold for over \$1000 per foot and will not take \$4000 per foot for; in fact, I would hesitate at \$5000 per foot.

This may not be interesting to you, but it is a fact, and I simply mention it to show my appreciation of and why I love the MANUFACTREES RECORD.

The MANUFACTURERS RECORD is not unmindful of the very great responsibility which rests upon it when business men in all parts of this country. North and West, as well as South, look upon its work in the same way in which Mr. Camp and Mr. Wimpy tell their view of what it is doing and what it has done for Southern development. We fully recognize that the Manufacturers Rec-ORD is not an individual enterprise, but is an institution which for nearly 30 years has sought to do the work which these two writers credit it with having accomplished. No paper holding such a relation as this to its subscribers and to the welfare of a vast section could be otherwise than profoundly impressed with the responsibility resting upon it and deeply appreciative of the spirit which causes thousands of its readers to hold it in such enteem as these letters and others that are constantly being received illustrate.

PRESIDENT WILLARD ON RAILROADS.

Daniel Willard, president of the Baltimore & Ohio Railroad, made an impressive speech at the banquet given recently in Baltimore to the visiting Governors of several States. Far from being of the usual after-dinner variety, it was an address of weight and importance. Naturally, the railroads were his theme, for he has been connected with them ever since he was a young-ster, and has won his way to an emi-

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After remarking that L. D. Brandeis recently declared efficiency in manage ment was in danger of being punished instead of rewarded, Mr. Willard pointed out that large earnings resulting from greater efficiency and economy of administration, coupled with better judgment, were frequently considered evidence that transportation rates were too high and as a reason that they should be reduced, or that wages ought to be increased. To thus attempt to take from the railroads their deserved rewards would be to paralyze effort, invite inefficiency and cause careless management. He heartily agreed with Mr. Brandies along these lines, although he differed with him upon some other matters.

Moreover, the problem today is how to obtain capital to provide for future requirements. At least half a billion of money a year will be needed for the next five years, and there is excellent authority for anticipating that actual requirements may be near a billion. During its last fiscal year the Baltiore & Ohio alone spent more than \$27,000,000 for additional facilities and equipment, which sum averages over \$6000 per mile for its whole system; yet it constructed no new line at all. Were this average cut in half and applied to all the lines in the United States, it would appear that over threequarters of a billion of dollars were needed for them in the same period. But, if the railroads were not permitted to show a reasonable profit upon operation without being subjected to the influences of agitation For lower freight rates or increased wages, or both, how could capital be expected to investment in their securities when the opportunity for returns thereon appeared so remote?

Mr. Willard acknowledged that public opinion was much more favorable to the railroads than it had been, and he expressed confidence that the railroads could rely upon the inherent desire for fairness of the American people to obtain just treatment, but couditions were not what they should be. Yet he will find that degree of fairness in the great mass of the people rather than among those with whom the railroads are immediately connected in business relations. The desire for gain is so great, competition is so intense in every line of effort that the disposition to grasp a point wherever possible cannot be escaped, and the companies will find themselves always more or less in hot water with those who purchase transportation and those who contribute in labor to its production. Unfortunately for the roads, the cost of living (especially the cost of food) has increased tremendously within the last ten or fifteen years, and this condition has caused appeals for higher wages, having also some bearing upon the demands for lower freight rates. But it must not be forgotten by all those concerned that wages are much higher and freight rates much lower in the United States than in any country of Europe. Remembrance of this should incline all of the public served by the railroads to deal with them in careful justice, and to make no appeals which are not based upon equity. Furthermore, it is better to wait awhile for some readjustments than to push toward them at a time which would interfere with the railroads obtaining that financial support which is essential to the performance of their duty, 000, or 4 per cent.

which is to maintain facilities adequate to the needs of the people at all times now and hereafter.

HOW TAMPA GROWS.

Tampa, Fla., has business people who know how to spread broadcast through the land the story of its advantages and its growth. Nature has been very generous to Tampa and the West Coast of Florida generally, but nature's blessings would forever remain unutilized if man did not have sufficient appreciation to make the best of them for the development of the country and the creation of wealth. Fortunately for Florida, the business mea of Tampa do appreciate the advantages and resources of their country and do try to make the most of their opportunity. They have sufficient enterprise to spend money liberally to make its advantages known in order to reap still greater profits by wise investment of this kind. And again, for-tunately, Tampa has a Board of Trade which knows how to do things and is backed up by the people of Tampa in the liberal expenditure of money to accomplish results. The Tampa Board of Trade, according to a circular letter recently issued, spend \$10,000 a year for advertising, \$2000 a year for entertainment, \$5000 a year for salaries and fixed expenses, and several thousand for other things, making a total of \$20,000 a year, annually subscribed by about 300 of its citizens. The Board of Trade sends out over 700,000 pieces of literature a year, and the result of its work is shown in the statement that "last year it located over 2000 families in this section."

If any of our readers want to know what Tampa is doing, and how it is doing, let them write to the secretary of the Board of Trade for a copy of a new book entitled "Tampa," just issued, 50,000 copies of which have been printed for distribution.

PROGRESS AT ROME.

O. N. Richardson, secretary of the Citizens' Building & Investment Co. of Rome, Ga., referring to the operations of his company, writes:

"The company will do a great work here, and one that is needed. Rome is building fast, and is one of the best young cities in the South. It is getting to be a large manufacturing city, with her 70 or more manufacturing plants. The business done here this year runs up high, and in almost every plant has been satisfactory.

"We believe that many of the disturbing questions that have been before us are now largely settled, and expect in 1912 to have a good business year, regardless of politics.

"Your journal is the best of the kind published in this country, and you deserve the thanks and support of the business men of the South."

FINEST COUNTRY EVER SEEN.

Hon. Earl Brewer, Governor-elect of Mississippi, who recently took a party of .Eastern capitalists to that State to make a study of the Delta country with a view to co-operating in the financing and the purchase by Mr. Brewer of 100,000 acres of land, wires from Clarksdale, Miss., under date of December 12 to the MANUFACTURERS RECORD as follows:

"The capitalists were delighted with the Delta country, and all said that it was the finest country they had ever seen and the richest land."

Between 1904 and 1909 the capital invested in the cooperage and allied industries in this country increased, according to the Census Bureau, from \$36,756,000 to \$50,342,000, or 37 per cent., and the value of products from \$57,956,000 to \$60,248,-

Edison on Co-operation vs. Competition.

THE WIZARD'S VIEWS ON OTHER VITAL QUESTIONS.

[Editorial Correspondence Manufacturers Record.]

Orange, N. J., December 7.

Through his ceaseless activity of brain and body Thomas A. Edison has blessed the world with many discoveries which have added immeasurably to its wealth and to the progress of civilization. He is seeking now to find some solution of the problems which all business men are constantly facing in the great question of co-operation or competition, and in a very interesting discussion of the subject gave the MANUFACTURERS RECORD a few striking statements based on his study of the subject, which he expects to elaborate more fully later on. In this talk Mr. Edison referred to the remarkable prosperity of Germany as the conditions of that country impressed the:nselves upon him during his recent visit to Europe, with suggestions of many lessons that we need learn from that country in gove:nmental as well as in business affairs. But here is the story of his interview. No condensation of the points made could do it justice. Mr. Edison said:

"Legislation to enforce co-operation in business instead of enforced competition is, as I see it, essential to our business prosperity. We have been going on the theory of compelling people to compete. Competition under such conditions results in the destruction of the weaker concerns and the control of the trade of the country by the stronger. Under this system, if continued, a time will come when a few individuals or great concerns will practically own the country. Competition of this kind is war. It means death to the Wherever any strong concern under the lead of some great general of finance or industry masses its attack by cutting prices in one section, it can destroy its competitors one at a time until it wins a victory over all and controls the trade of the country. It matters not if giant corporations should be managed at present by men of high ethical standards who would not be guilty of this kind of destructive war. If the power exists, these corporations might come into the control of men of a different stamp, who would use it with ruthless disregard of all ethical standards to the destruction of all competitors. We must, therefore, find a way to prevent any combination having such power within its grasp, for the possession of power may lead to its wrong use.

"Instead, therefore, of trying to compel competition by the Sherman law, or any other legal process, we must find a way, if we are to save ourselves, to develop cooperation. Competition means death: cooperation means life,

"How would I bring about such cooperation?

"This is a broad question, and difficult to answer. The first essential is that no one shall be allowed to sell the products of his factory at less than the cost plus, say, the legal rate of interest on the investment. When you have prevented price cutting in this way, you have made it impossible to carry on the kind of warfare that has often been practiced where one concern may destroy another by cutting prices for a time or in a given territory to a figure below the actual cost of production.

"We may be able to find a way by which all of the manufacturers of the same character of goods in well-defined zones or sections shall be permitted or even compelled to co-operate to the extent that a central bureau will know the exact

cost of production in each plant. Then forbid any one of these manufacturers to sell at less than the average cost of production for all in the group, plus a fair rate of interest on the capital invested. Under this system there would be a chance for the small manufacturer to live, while, of course, the one having the best facilities enabled to produce at the lowest cost would make a larger profit than the average. Everyone, however, would be protected. No business would be destroyed, and every member of the group would be stimulated to secure the best possible results by lowering the cost of turning out his goods. Unless we adopt as a starting point to any new legislation on business matters the fundamental idea of compelling business men to co-operate in this way, instead of seeking to force them by law into destructive competition, we shall rapidly hasten the time when the weak shall be destroyed and the strong by unbridled power shall dominate the business of the country."

"Mr. Edison," I said, "your plan seeks the protection of the producer. How would you prevent the producers, in this co-operative system, from combining to advance prices to such a figure as to injure the consumer? What have you to suggest as a protection to the consumer while protecting the producer?"

"My suggestion would be for the producers to have permission to form associations and make contracts agreeing with each other not to sell below the cost of production, including depreciation on plant and the legal rate of interest on the investment. The average costs to be determined by two firms of public accountants acting separately, and the mean of such average costs and investments to be the cost below which no member can sell. All these findings and contracts of each association to be filed in some legal bureau to make them legal, and every period of three, four or five years new determinations to be made so as to give the public the benefit of improvements in science and

"Nearly all legislation affecting business works out diametrically opposite to what was intended. The Sherman law is an illustration of this. A study of legislation over many years and on many subjects will show that nearly all acts of organized bodies, legal or otherwise, are below the average intelligence of the least intelligent of its members. This was first stated by Herbert Spencer from data collected by him. A study of the laws passed for many years back in National and State legislation will prove this and show that the majority of these laws have had the very opposite effect which they were expected to produce. This phase of action of organized or legislative bodies is illustrated in the case of labor unions. You never knew a labor union to call a strike at the best time to secure the results desired. It always orders a strike at a time when it is least likely to win. In studying this phase of business and legislation, I am somewhat inclined to think that the best government in the world is that of a benevolent despot of great mental capacity of which Emperor William of Germany is a type, but as benevolent despots are rarely found more than once in two or three centuries, we cannot turn to that form of government to secure the liberty of life and the liberty to do business and develop business which we might find if we could be safe in getting a benevolent despot in power on every occasion.

"The marvelous development of Germany is an illustration of what such a ruler can do for a nation. E:nperor William is a benevolent despot, out he is a man of great ability, of broad views, concentrating every energy of his life upon the broadest prosperity and expansion of his country. He is ever ready to seek knowledge on every industrial or financial question or on governmental affairs from men who are experts. If an industrial or financial plan involving questions of importance to Germany is under discussion, Emperor William seeks the advice of men who are familiar with the subject.

He constantly turns to leaders among the Jews, recognizing that the persecutions of thousands of years have made the Jews the ablest financiers in the world. This persecution has developed in them a sixth sense. They can see through a business proposition with the same unerring judgment that a woman reaches conclusions by intuition, and they are rarely wrong. Recognizing this, the Emperor calls them into consultation on matters of far-reaching moment to the business interests of the empire.

"The prosperity of Germany is marvelous. While we are suffering from stagnation and depression in the iron and steel industry, Germany's works are crowded to the utmost limit of their capacity. The iron output of Germany last month was the largest in its history, so I am told. The prosperity in iron and steel, which has been at high tide for several years, has many interesting phases connected with it. Germany has legislated to produce prosperity; our legislation has resulted in depression of all business.

"Germany exports banks as well as pigiron. Its industrial promotion banks are leaders in investigating and financing industrial enterprises. We have nothing in this country comparable to them. Germany exports banks in the sense that it establishes branch banks throughout the world, where men trained in finance and business are in the closest touch with all trade conditions of the countries in which they are located. If, for instance, a man in South America wants to buy goods from a manufacturer in the United States. we demand cash in advance or a 30-day settlement, whereas in Latin-American countries the usual time is six months. We are not prepared with banking facilities nor with knowledge of customers in other countries to be able to meet their requirments for six months' credit. The South American man, therefore, turns to Germany, and though the German manufacturer may not be prepared himself to give six months' credit, the branch bank in the home of the would-be buyer is posted as to his financial standing, advises that he be given the credit asked, and then discounts the bills for the German merchant or manufacturer. German seller is in this way able to do business on limited capital and vet accommodate the needs of the foreign buyer. Through the development of this branch banking system, its close investigation of business conditions, its thousands of men trained through long experience in all parts of the world, Germany is making marvelous strides toward capturing the world's trade. It may not run England out of the foreign markets of the world, but no other country on earth is making such progress in the development of for-

"An interesting phase of this wonderful foreign-trade growth is the system of 'dumping' surplus product on foreign countries at less than the actual cost of production, and, of course, at much less than the home price. The German Government is a strong upholder of this system. Our Government persistently fights it. A personal illustration shows how it works

"I think I was the first manufacturer in the United States to adopt the idea of 'dumping' surplus goods on a foreign market. More than 30 years ago a study of my balance sheet-and I have always controlled my business operations with the balance sheet before me-showed me that we were not making much money, and the plant was not being run to its full capacity because we could not find a market for the product. I called my experts together and suggested that we undertake to run our plant to full capacity and sell the surplus product in Europe at less than the cost of production on the basis on which we were then running. The suggestion was opposed: none of my staff could see how we could make money by selling goods at less than cost. I sen the men back to figure out how much it would add to the cost of operating the plant and doing business to increase its production 25 per cent. We had certain fixed expenses, as has every concern; these had to be met whether we were running at 75 per cent, of our capacity or 100 per cent. It was figured out that we could turn out 25 per cent. more product at an increased cost of only 1 or 2 per cent. On this basis I sent a man to Europe and sold incandescent lamps in competition with European makers at less than the cost of production, running on a 75 per cent, output. In doing this I was enabled to employ more labor to run the plant to full capacity and thus to increase prosperity of the country. It would have been impossible to sell these lamps in this country at the price at which I sold them in Europe without bankruptcy. American sumers were not injured in the slightest, but we were enabled to employ 25 per cent. more men and get rid of the surplus on the foreign buyer.

"Throughout Germany it is recognized that this is wise business economy. The German Emperor takes the ground that in selling or dumping the surplus product on foreign markets more labor is given employment in Germany and that foreign countries thereby pay for the maintenance of labor in Germany, which, but for this system, would be idle, and, instead of being self-supporting, would be a drain upon the country. Germany is the great 'dumping' country of the world. It is dumping its surplus everywhere, and every other country in foreign trade must compete with it or quit.

"There are many lessons we can learn from Germany, such as the method of handling its foreign trade through the establishment of branch banks all over the world; the training of thousands of men to represent its manufacturers and merchants in other lands so that men of the highest business ability, broadly educated as technical experts, as salesmen, as financiers, acquainted with the languages of the countries in which they do business, are representing German financial houses and manufacturers in almost every land under the sun.

"Nature has been so prodigal, so lavish, with its gifts to this country in our vast natural resources that we are wasteful in their use. Nature has been niggard in its gifts to Germany, and therefore the Germans, through science and thrift and economy, have sought to overcome the disadvantages in their lack of abundant resources. As men are greater than coal and iron or other raw materials out of which to create business, so the development of efficiency in the German has enabled that country in many respects to

surpass us. Where we are careless and wasteful in many manufacturing processes, the German is willing to spend weeks and months to work out some technical problem of economy. In Germany the utilization of by-products has been carried to a degree unknown to this country. We waste where Germans economize. Much of the credit for the world-wide expansion of Germany's trade, for the marvelous prosperity which is seen everywhere, for its urban development, surpassing that of this country for the splendid paving and cleanliness of its cities must be given to Emperor William. He is really the great financial and industrial upbuilder of Germany. He is conquering the world by commerce rather than by armies."

Turning to the development of the storage battery, to the utilization of electricity and transportation questions in general, Mr. Edison said:

"The storage battery, as now developed, solves the problem of city hauling and will eventually, as power plants spread through the country, be available for motor-truck work everywhere.

"The motor truck occupies one-half the space of a horse-drawn vehicle and carries double the load at twice the speed. Fifteen years ago a team could make six trips a day, say from Claffin's store to the depot. So great is the congestion of traffic that now a wagon can make only two trips a day against the six formerly made. The cost of hauling merchandise to the depot is equal to the railroad freight from the depot to Chicago. Seventy-five per cent. of all the freight moved by all the railroads is handled by vehicles. The importance of reducing the cost of vehicle haulage is therefore, by reason of the exorbitant cost at present, greater than the importance of reducing the rail-Hence, the motor road freight rates. truck, carrying double the load at twice the speed and occupying half the space of a wagon, is one of the revolutionizing forces which has come into the world for the advancement of all civilization.

"Hauling millions of tons of coal from the mines with which to operate locomotives is a relic of barbarism, as compared with the scientific transportation, which will ultimately be brought about by the utilization of electricity.

"Probably no more remarkable advance in the development of power has been made for many years than the principal of the Diesel engine. This engine is the outcome of the scientific working out in practice of a scientific theory on which its invention and development have been based. Starting with a scientific theory, the inventor has put into a working proposition the highest development of the engine. In Germany Diesel engines of 10,000 horse-power are being built for the warships. While originally planed for the use of crude oil, since the world's supply of oil is limited, the possibilities of the engine for creating cheap power have been broadened by finding that powdered coal can now be used as well as oil. My old company in Germany, the Allgemeine Elektricitäts Gesellschaft, which now employs 60,000 men, is building these en-

"This is only an illustration of the almost limitless possibilities awaiting mechanical advancement through science. We are but in the infant stages of scientific development in manufactures. Far greater achievements will doubtless be made than have yet been accomplished. In its intense devotion to scientific work, in the marvels that are being achieved through chemistry and engineering, Germany is a beacon light for the world. We must in this country abandon our waste-

ful methods, our failure to utilize the byproducts of industry and be willing, as the
Germans are, to spend sleepless nights as
well as days in the development of scientific research in all our manufacturing
operations. We must abandon our ceaseless effort to overcome the trust problem
by compelling the destruction of the
weaker through cut-throat competition
and find some basis for co-operative work,
which, at the same time, shall limit the
power of great corporations to carry out
destructive policies, if they should so
desire."

R. H. E.

WOULD WELCOME CHEMISTS.

Shreveport Alive to the Opportunities in the Congress.

Chamber of Commerce, Shreveport, La., December 9.

Editor Manufacturers Record:

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Referring to your editorial in the November 9th issue of your publication regarding "What the South Has to Show Chemical Manufacturers," under the heading of natural gas we note your suggestion as to what Shreveport should do. I have been intending to write you regarding this matter, but an unusual press of business has prevented me doing so.

I will say that when the International Congress of Applied Chemistry made its announcement in June quoting your article of Augusta, which was intended to sound the sentiment of the Southern commercial organizations that took the matter up with that organization and Dr. David T. Day, We have been corresponding with them since that time. We have also had the benefit of Congressman J. E. Ransdell's co-operation in the matter.

Our people are very enthusiastic over the matter, and are prepared to receive the delegation and show them the possibilities of the Shreveport district; however, we are handicapped in extending a special invitation for the reason that we do not have the slightest idea as to how large a delegation they will have, when they will arrive or leave, etc.

At our last directors' meeting our people wired the executive committee of this organization asking that they arrange to meet with representatives from this organization to thrash out all the details of a trip to Shreveport. If the executive committee of the congress also desired, we are prepared to make a trip to their meeting place and arrange every detail of the Shreveport stop to their satisfaction.

Shreveport is thoroughly glive to the possibilities of her resources, and is prepared to do anything within her power to develop them. It has occurred to me that it would be a good plan for you to suggest in your columns that representatives of other important commercial organizations in the South also arrange to meet with the executive committee. We have also asked the general passenger agent of one of the large trunk lines to quote us rates covering all expenses of a trip from New York to Shreveport, Shreveport to Lake Charles, Lake Charles to New Iberia and Avery's Island, La.; thence to New Orleans; thence to Birmingham; thence to Washington. Arrangements could also be made to visit the Tennessee phosphate deposits after leaving Birmingham, instead of going direct to Washington. It is outside of our province to suggest what other commercial organizations should do in the way of exploiting their natural resources, but the matter of having this delegation visit the South could be clinched, I believe, in case the other organizations would adopt a plan something like we have and instead of issuing a formal invitation arrange to do definite business.

E. L. McColgin.

Secretary.

Great Water-Power

Unless some untoward circumstance in-

tervenes between its present purposes and

their fulfillment, the Aluminum Company

of America will shortly begin on the Little

Tennessee River, in this State and North

Carolina, what will probably be the larg-

est hydro-electric development in the South, if not in the entire country. Dur-

ing the summer of 1910 the Aluminum

Company bought the holdings of the Knox-

ville Power Co., a corporation formed for the purpose of developing power on the

Little Tennessee and bringing it to this

city for sale. Since that time it has pur-chased the property of the Talahassee

Power Co., a North Carolina corporation

with riparian holdings on the river Le-

tween the town of Bushnell, N. C., and

the Tennessee-North Carolina State line:

that of the Union Development Co., a

Georgia concern, and a considerable num-

ber of small tracts lying along the river

and belonging to individual owners, and

it is now in possession of practically all

the power rights and riparian privileges on

both sides of the river from near Bushnell

down for 40 miles. What few small hold-

ings still remain out are now the subjects

of negotiations between their owners and

the agents of the company, and will doubt-

less soon be acquired either by amicable

Some years ago the Southern Railway

extended its line from Marysville, Tenn.,

to Bushnell, a distance of about 80 miles. From Marysville to the State line the road

was located so as not to interfere with

the development of the Knoxville Power

Co., but when the location was made on

the North Carolina side it was without

regard to the claims of the Tallahassee

Power Co., the grade being lowered there

to a point so close to the river that its

construction would have rendered the

building of a dam of any considerable

height impossible. The Tallahassee com-

pany sued out an injunction against the

railroad company to restrain it from build-

ing on the lower grade, and sought to force it to adopt a line higher on the

mountain side. The question as to the

relative rights of the parties to this in-

junction suit are still indecided, and the

chances are they will never be adjudicated,

for the Aluminum Company, 2s soon as it

had succeeded by purchase to the rights

of the Tallahassee company, set to work

to effect a settlement by compromise that

would secure to it the full effect of its

purchase without violating the rights of

Both the Aluminum Company and the

railroad have therefore had engineers in

the field making surveys and trying to

figure out a way by which the railroad can

be built through the territory without destroying the plans for power development,

It is understood that if a proper route

can be figured out the Aluminum Company

will pay at least a portion of the increased

cost of building the road on the more ele-

vated location. If this matter can be

brought to a satisfactory conclusion, the

amount of power developed will be much greater than it can be if the railroad builds

along the route formerly located. The

plans of the Aluminum Company must

therefore await the conclusion of the pres-

purchase or condemnation.

\$12,000,000 TO \$15,000,000 TO BE EXPENDED BY ALUMINUM

COMPANY OF AMERICA.

[Special Correspondence Manufacturers Record.]

Knoxville, Tenn., December 11. | reached seems hardly a question of doubt.

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the railroad.

and who has been through the Little Tennessee forge a number of times, and al-Development. ways with an eye open to power possi-

bilities, assures me that it is possible to develop 500,000 horse-power on the property the company has acquired.

It is the intention to use the electricity thus generated in the reduction and man ufacture of aluminum, of which metal the Aluminum Company of America is the largest manufacturer in the country, its output comprising about 95 per cent. of the entire amount used in the United States. For the present bauxite, the raw material used by the company, is secured in Georgia and Arkansas, but large de-posits are said to exist in Tennessee and North Carolina, and it is thought a suffieient quantity of it will be uncovered in these States by the time the Little Tennessee plant is ready for it to furnish all it will need nearby. The company already has plants at East St. Louis, Ill., Niagara Falls and Messina, N. Y., but the demand for its output is so great that is has become necessary to add to its productive capacity, and in casting about for a location for another plant the attention of its officials was attracted by the great power possibilities of the Little Tenee, one of the best features of which is that it can be used throughout the entire year. It is too far South to be stopped by ice in winter, and draining as it does a watershed from which the timber has

engineer to whom I talked in this city, comparatively steady flow of throughout the entire year.

> A large amount of money-from \$400,-000 to \$500,000-has already been expended by the Aluminum Company in the acquirement of property, and it is said the development in contemplation, together with the manufacturing plant, will run the amount up to from \$12,000,000 to \$15,000,000, and it is expected that employment will be given to about 5000 people. The enterprising men of Knoxville are awake to the tremendous advantage to their city of having such a plant locate here, and are actively at work to secure There are some reasons why the establishment of a new town-in fact, it would be a city, for 5000 working people eans many more thousands of citizenswould be best, while there are others that argue for transmitting the electric current here and adding the force of the new institution to that of those already here. The managers of the Aluminum Company are giving consideration to the reasons on both sides, and nobody knows how they will decide.

Among the other purchases made by the Aluminum Company was the stock of the Knoxville Water & Electric Power Co., a corporation organized a few years ago with the purpose to generate power somewhere on the Holston River and bring the current here. In buying out this company the Aluminum Company secures a franchise for furnishing electric light and power in this city, a circumstance that may have some bearing on the question of where its manufacturing plant gion where the rainfall is large, it has a will be located.

tute route. The Aluminum Company will be a much heavier shipper over the railroad in case its larger plans are carried out, a fact that the railroad :nanagement can be counted on not to overlook. In view of these things, it is reasonable, therefore, to discuss the plans of the Aluminum Company in their larger Where the Little Tennessee River

The Southern Railway has shown a spirit

of such liberality in its work for the up-

building of the territory it serves that

there can be no quest on of its willing-

ness, not to say anxiety, to do everything

reasonable within its power to further such developments as that contemplated

by the Aluminum Company, and the pub-

lic confidently expects the controversy to

end with the discovery of a feasible substi-

breaks through the Blue Ridge it creates a gorge the sides of which rise many handreds of feet above the water level, and the rapid fall of the current from the higher altitude of the mountain range in North Carolina to the lower lands of Tennessee provides a number of natural sites for power development of great size. Na ture seemed in a power-providing mood here, because, unlike most streams that take their way in rapid course through narrow gorges in the mountains, there are here a number of places where the bed of the river and the bottom lands along the banks widen out, the water lies in pools and eddies and opportunity is furnished for impounding dams that will "back" it up for long distances, thus making possible the storage of milions of cubic feet against the season when the natural flow will prove inadequate to the demands made upon it. In one of the natural reservoirs thus provided the company can, by means of a dam of easy construction, catch and hold 2,00,000,000 cubic feet of water; in another 2,500,000,-000; 25,000,000,000 cubic feet of water in one dam and 2,000,000,000 cubic feet in another. One of these impounding dams will not be in the Little Tennessee itself, but in the Cheyoah, which is one of its tributaries; the other will be in the main river at the mouth of another large tributary, thus taking advantage of the holding capacity of both streams.

While the locations for the various dams and power plants have not yet been determined, it is known that the one farthest down on the river will be somewhere about 20 miles from Marysville, and not far from the lower end of the great water gap made by the passage of the river through the mountains. Somewhere not far above the upper end of the lake formed by the first dam the second will be constructed, and so on until four or five dams of varying heights and lengths have been thrown across the river. At each dam a power plant will be installed and the potentiality of the water transformed into electric current, all of which will be carried on wires to the general distributing center. Each dam below the uppermost one will thus be fed not only by the water impounded in its own dam, but by that impounded by those above as well.

The Aluminum Company calculates by this succession of dams and power-plants

Big Timber Operations to Center at Asheville.

PLANS TO DEVELOP 250,000 ACRES OF SPRUCE, HEM-LOCK AND OTHER WOODS.

[Special Correspondence Manufacturers Record.]

Asheville, N. C., December 12.

not been cut, and in a mountainous re-

S. Montgomery Smith of this city and associates, who recently opened for development the spruce properties around Mt. Mitchell, have organized the Asheville Timber Co., with authorized capital of \$1,000,000, to be increased to \$4,500,000, and has secured options upon vast timber tracts in Western North Carolina. Mr. Smith says:

"The properties secured include over 250,000 acres, and contain about 1,250, 000,000 feet of hemlock and 1.100,000,000 feet of hardwood. All the properties are virgin forest and of the very highest grade. Among the hardwoods are the best stands of poplar and cherry that ever grew in this

"The properties are located in four groups, but all are within 75 miles of Asheville and tributary to that city. Asheville is to be made the headquarters and manufacturing point for all the tim-Sawmills to a total capacity of 500 M feet per day, stave mills of proportionate capacity to work up the inferior timber, a pulp mill of large capacity and a tannic acid plant will be among the in-dustries to be installed. A notable feature of the development is the complete utilization of all the sawdust and other mill waste from all the mills at one central power plant, converting it into electric power to supply all the mills and factories from which the waste is produced, besides a surplus to operate the big ground wood pulp mill, which is a large consumer of power. The operation of all the plants by electric power eliminates the fire risk to the utmost, and it is contemplated that to develop 200,000 horse-power, but an practically all the buildings be of concrete. material for 20 years' operation from the

"The timber-holding company will not itself operate any mills, but will sell specific amounts of stumpage to reliable operators, to supply them for a definite period of years. The timber company will provide the railroad transportation from each tract, so that the mill operators secure their logs at practically uniform prices delivered, regardless of what tract the actual timber is cut from.

"The manifest advantage of a location at one central point, especially so large and attractive a town as Asheville, is a great inducement to every operator, and saves the necessity of investing a lot of money in houses for employes and makes commissaries unnecessary. The great production from these combined industries makes so large a volume that Asheville will become at once the most important center for lumber buyers in a very great region and second to no other producing market in the South.

"A feature of the woods management will be the placing of the operations substantially under United States forestry supervision, systematic logging in the fewest areas at a time, lessens the investment logging railroads. Fire protection under the Government supervision minimizes the risk from that source. Co-operation of all the several interests will secure the most favorable freight rates.

"The great volume of raw material produced will be the incentive for the location of all manner of woodworking industries. Hardwood flooring and trim, doors, sash and blinds, veneer, veneer doors, fur-niture, vehicles, boxes and no end of smaller industries will be able to secure

TO SETTLE ALABAMA LANDS.

Organization Planned to Cover All the Counties of the State.

[Special Cor. Manufacturers Record.]

The Alabama State Agricultural Land

Co., which received a charter from the

State last September, is just getting its

plans in shape to carry on the business

Center, Ala., December 6.

lands actually under control, so that all chances on that score are eliminated.

This great enterprise has been brought to its present almost assured success in a very brief time. All of the land has been secured within less than one month. Several large mill operators are already com mitted to the plan, and pending negotiations leave no doubt that the full complement will be made up before this article reaches our readers. The recent sales and resales at rapidly advancing prices of some of the choicest tracts in Western North Carolina has attracted wide attention to the magnificent timber of that locality, and the fortunate grouping of these magnificent tracts by the Asheville Timber Co. and placing the timber at the disposal of operators in almost any quantity now solves the problem of future supply for the lucky ones who get in on this The whole purchase price of the 250,000 acres and the cost of all the will approximate operating plants \$3,000,000.

"The industrial development of Asheville will now begin on a scale scarcely dreamed of, and the 'Electric City' will henceforth be a leader in the lumber world in the fullest conservation and utilization of one of nature's most valuable gifts to

HOUSTON'S \$2,500,000 HOTEL.

Eighteen-Story Structure to Be Com-pleted Within a Year.

[Special Cor. Manufacturers Record.] Chamber of Commerce, Houston, Tex., December 9.

Within a year Houston will possess o of the costiliest botels in the South. By November 1, 1912, it is planned to have completed the new 18-story Rice hotel, to cost complete about \$2,500,000. It will be open in time to care for part of the crowds of the annual No-tsu-oh carnival. The hetel is to rise upon the site of the old five-story Rice hotel, which was razed a month ago. This site is at Main street and Texas avenue, directly in the heart of the business section of the city. Every evidence of the old historic Rice has been cleared away, and excavators are at work digging the basement and subcellar and constructing concrete retaining walls around the curbing.

The site is one of the most valuable in Houston, while it also carries with it sentimental interest, for on this site the capitol building of Texas once stood. The marble tablet commemorating this event was carefully removed when the old Rice was demolished, and will be placed in a conspicuous position in the new hotel.

The new hotel will be modern in every respect. The plans have been revised scveral times, the latest plans, finally accepted, calling for a building with a greater number of outside rooms.

With the hotel completed there will be no city of its size in the entire country better situated for hotel facilities than Houston. Until recently Houston was severely handicapped in this respect. While building in every other line progressed rapidly, tall skyscrapers breaking the former even skyline of the downtown section, hotel construction appeared delayed until a later period. Houston already possessed several fine hotels, but the facilities thus accorded were not comensurate with the needs of a growing city as Hous-

The first effort to overcome this handicap was made by Bender Bros. of Houswho December 15 open a 10-story hotel, constructed and equiped at a cost of about \$1,250,000. The Bender is under the management of B. S. Swearingen, a hotel man also interested in the management of the St. Anthony hotel in San Antonio.

The jobby of the Bender is said to be the handsomest in the South, the fluted Roman-Doric columns, finished in gold leaf, the Doric fountain of solid marble and the Circassian walnut finishing of the Louis XV period giving the whole an air of elegance. The hotel has 272 guestrooms, all connected with private bath. The furniture of every room is solid mahogany and Circassian walnut. The Bender contains a state suite on the parlor floor and three cafes. Ball and banquet rooms are located on the tenth floor.



NEW RICE HOTEL AT HOUSTON.

Although with its present hotel facili- | Robert S. Ingram, secretary, Center, Ala. ties and the addition of the 10-story Bender and the 18-story Rice. Houston will be well equipped, another hotel of 10 stories is being projected, to be constructed at Rusk avenue and Fannin street. Excavating for this hotel will begin before the first of the year.

With such hotel facilities Houston will become a convention city of the South. In anticipation of this, Houston has constructed a \$400,000 municipal Auditorium with a seating capacity of 7000. It is larger than the Hippodrome of New York, and is the greatest convention hall south of Chicago. The Auditorium is of concrete, steel and brick construction. and is absoltuely fireproof.

JEROME H. FARBAR.

Cutlery and Tools.

The capital invested in the manufacture of cutlery and tools in the United States increased between 1904 and 1909, accordiag to the Census Bureau, from \$43,729,-000 to \$67,380,000, or 54 per cent.; salaries and wages from \$15,458,000 to \$21,-763,000, or 41 per cent., and the value of products from \$39,022,000 to \$53,266,000. or 36 per cent.

President White says:

"One of the prime reasons for the organization of our company was to show to the world the wonderful resources of the State of Alabama and to aid in locating people from other parts of the country that are coming South to make their homes. There are in this State 67 counties, and in each of these we propose to have connection with one reliable real estate man, who will put us in touch with all the farm, timber, cut-over and mineral lands that are on the market. We have already come to agreements with at least one man in half of the counties. It will take only a little more time to get in touch with men in the remaining counties. At the present time, through the men we have already secured, in the different counties they have placed on our list for sale many valuable tracts of land. To make our organization nearer perfection, Mr. Lumpkin and myself propose to make a trip to some of the Eastern and Northern cities and get in touch with some of the leading real estate men in those cities who have clients that are interested in coming South. In this way we can serve not only the Southern people to good ad-

vantage, but the incoming people to the South will know where to come for information, advice and anything good in the Alabama land values.'

The Center Commercial Club was organ. ized here Monday night with 30 charter members and with G. P. Smith, president L. J. Cobb, secretary, and W. H. Lumpkin, vice-president. In speaking of Center and Cherokee county's attractions, Vice-President Lumpkin said:

Center, having a population of about 500 people, is the county-sent of Cherokee county, which has more good roads then any county in the State: the largest hany. ite industry in the world; has over 100 miles of navigable waterways, and putting the best for the last, we have the best farming lands to be found anywhere. There are also many other attractions which are too numerous to mention, but these counstitute the leading ones. Center is four miles from two railroads, and not located directly on any. However, our good roads bridges the distance between these points so admirably that we practically have all the advantages that we would enjoy had we a depot and railroad right in our midst. One of the important matters the club will work on will be the securing of either a spur track from one of the roads or a direct line of one of the new railroads contemplated for Alabama.

ROY G. BOOKER.

Lake Mattamuskeet Drainage.

[Special Cor. Manufacturers Record.] Raleigh, N. C., December 11.

The bonds, the amount of which is \$500,000, for the drainage of Lake Mattamuskeet, in Hyde county, and adjoining lands subject to overflow, totaling 125,000 acres, are now being made ready for sale, and it is expected they will be taken up by the middle of January. The contracts for the drainage work have all been made, including the 10 great pumps to lift the water out of the lake and into the eightmile lake drainage canal, which will be also a waterway, and for the cutting of this waterway to a depth of 12 feet. Connected in a way with this great prospect, which is one of the greatest in importance along the eastern seaboard, is the railway from Fairfield to Belhaven, which goes around rather more than half the lake, and which has been graded by State convicts. It is understood that the Norfolk Southern Railway has plans to take over this road, lay the rails and operate it, and to build an extension from Belhaven to Washington, an important point on the main line.

A \$300,000 Acid Plant.

Referring to his company's recentlyannounced plans for an acid plant, J. M. Lang of Savannah, vice-president of the Phosphate Mining Co., wires the MANU-FACTURERS RECORD as follows: commence building acid phosphate plant this month; capacity 50,000 tons; cost \$300,000; dimensions mill and storage, 170x700 feet: acid chambers and furnaceroom, 76x600 feet; construction, concrete brick, lead and frame buildings." This company is capitalized at \$2,000,000, and it contemplates building plants in addition to the one at Savannah; W. R. Peters of New York is president.

To Aid Farmers.

The Pennsylvania Railroad has issued a booklet on "The Essentials of Soil Fertility" as part of its policy of building up farming districts on its lines. Other pamphlets issued by the freight department of the company deal with alfalfa, orchard development, potato culture, seed grain suggestions, use of dynamite on the farm, and farming possibilities of the Delaware-Maryland-Virginia peninsula.

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Giant Coal-Mining Operations.

[Special Correspondence Manufacturers Record.]

Fairmont, W. Va., December 4. As illustrating the "last word" in mine equipment of the present day, the Annabelle mine of the Four States Coal & Coke Co. presents a number of interesting phases. It is particularly interesting, in that it shows the high estimation in which proper preparedness is held by such leaders in industrial achievement as the men who are at the head of the enterprise.

The Four States Coal & Coke Co. is one of the concerns organized and con-trolled by the "Jones interests," which have for years been such prominent facters in the coal business, and which control coal-producing plants in Pennsyl- kick-backs for returning the cars to the

I a shaft that will stand as it is until the last ton of coal is taken from mine No. 1.

The tipple is an unusually large one, built of heavy structural steel, as shown in the accompanying illustrations, and is equipped with a number of improved devices for the economical handling of ceal. The mine cars are hoisted from the mine directly to the tipple floor, where they are handled by semi-automatic devices which require a minimum of handwork and at the same time secure the maximum of safety. These devices include automatic cross-over dumps with steam pull-backs for dumping the cars, gravity tracks and

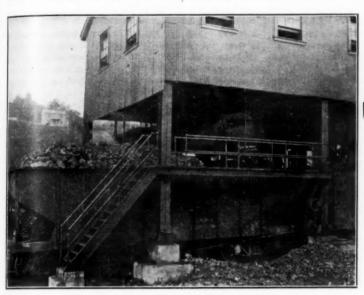
caution in the matter of safety has here been taken by having the signal from the man on top given by an electric bell, while that from below is given by means of an air-operated whistle, thus doing away with the danger that would arise from confusing signals. As one cage descends at the time the other ascends, the hoisting engineer awaits both signals before making the hoist.

Another simple but interesting device is one at the bottom of the shaft, which automatically transfers one car at a time from a train to the cares. It is operated by a system of levers, one of which is struck each time the cage descends. This appliance not only facilitates the handling of the mine cars, but also protects the men from accident.

Throughout all the workings, and at every point on the tipple where accidents might occur, safety devices are installed. All moving machinery is guarded with provided with arc lights, which are used

The machinery of the tipple consists of large shaking screens for separating the lump from the fine coal. They are placed at an inclination that keeps the coal from flowing over them by gravity. They are fed by reciprocating feeders, which deliver the coal to them in uniform stream, and the steady movement of the screens, to gether with the uniform motion of the coal, provides excellent means of separation and at the same time prevents breakage of the coal that is being screened.

From these screens the coal passes directly to the picking tables shown in the illustration. These are steel platforms 6 feet wide and about 80 feet long, that move at the rate of 40 feet per minute, over which the coal is spread in a thin, uniform layer, so that men walking over them can remove all impurities. The room through which these picking tables run is well lighted with many windows and is



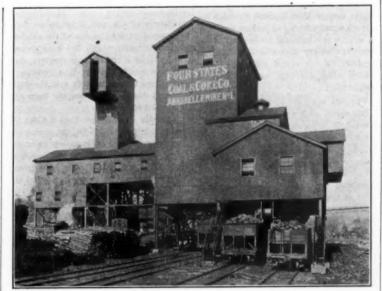
LOADING COAL AT ANNABELLE TIPPLE, ANNABELLE, W. VA.



REMOVING REFUSE FROM COAL ON MOVING PICKING TABLE.

vania, West Virginia, Virginia, Ohio and Kentucky, with selling agencies throughout the country, and which is well known to business men in most of the States of the Union. The Four States Coal & Coke Co. purchased in this county. Marion. a large acreage underlaid with Pittsburgh coal, and a short time ago began preparations for mining coal on a large scale, and with such perfection in appliances as the experience of men behind it had taught them would be most economical for the operators and safest for the employes.

Annabelle mine No. 1 is situated at the town of Annabelle, W. Va., on a branch of the Baltimore & Ohio Railroad that leaves the main line of the Monongahela division about 10 miles south of this place. It is a shaft mine, the coal being reached by two shafts 300 feet deep. The first of these is circular, 16 feet in diameter, and used exclusively for ventilation. The second shaft is oval in cross-section, and is 25 feet and 8 inches long and 11 feet and 6 inches wide. This is the shaft through which the coal is hoisted to the Both these shafts are lined throughout with concrete, which is a distinct advance in mine construction, inasmuch as it succeeds the old-fashioned cooden-lined shaft that was a standing invitation to destruction by fire and a constant menace to the lives of those employed at the bottom. The big shaft is equipped with two cageways for hoisting, and each of these contains two running guides of 6x8 inch yellow pine, supported on extra heavy steel beams imbedded in the conrete. The wood of which these guides are made is the only wood to be found in the shaft. The substitution of concrete for wood in lining this shaft not only means greater safety for the miners, but it means



COAL TIPPLE AT ANNABELLE MINE NO. 1 OF THE FOUR STATES COAL & COKE CO.

caging machines which lift the cars up and place them on the cage ready to be lowered to the mine. The same operation which places the empty cars on the cage takes off the full ones which have just been hoisted. The machinery for handling empty cars is all operated by one man, who controls also the hoisting of the cages, signaling the hoisting engineer when ready to lower the cage into the mine. The hoisting engineer also receives a signal from the bottom of the shaft when the loaded car has been put on the cage ready to be brought up. An extra pre- prevented at this mine.

shaft, steam-operated transfer cars and iron railings; all working places easily accessible have railed passages and ample stairways; all openings in floors are completely railed in so that workmen are not in danger of falling. Careful attention is paid to providing headroom and ample light at all working places, and the comfort and safety of the men, as well as the economical working of the mine, are provided for by enclosing the revolving screens, chutes for fine coal and various other pieces of apparatus which in most mines are enshrouded by an opaque cloud of dust. These dust clouds are entirely

when necessary. Every lump on the moving platform is subjected to close scrutiny, and only good coal is allowed to pass. Not only slate, but any bony coal discovered on the picking tables is picked out and thrown upon an automatic conveyor. The car trimmers also throw all refuse found by them in trimming coal to the conveyor, to be carried to the crusher. An economical feature of this automatic conveyor, in addition to that of collecting fuel for the boilers, is that it precludes the expense of having the refuse gathered up and hauled away. The fuel thus furnished is supplemented by the dust from the coal that has passed through a revolving screen with a half-inch mesh. It will be further supplemented when necessary with the next grades of the output, viz., pea and slack.

It will be seen that the careful inspec tion of the coal described above gives assurance that the customer's interest is carefully guarded by this company, and that he does not receive the dust that comes from the mine with the coal, and which is a necessary part of the production, but only the coal that has passed over the screens. In addition to this, the conditions inside of the mine are favorable to the production of clean coal. A natural cleavage exists above the coal and prevents the falling of roof slate in mining, thus eliminating one of the principal sources of impurity in coal. So it will be seen that one of the principal points in favor of the coal sent to market from the Annabelle mine is its freedom from impurities of all kinds, being just what the customer wants, coal, and nothing else.

The device for loading lump coal from the picking tables into cars is worthy of special mention, as it is one of the most recent improvements introduced into coal handling. One end of the picking table is arranged with a hinge and the other is attached to an electric hoist in such a way that it can be lowered into the bottom of a car starting to load. In this way the coal is carried along and dropped gently down to the bottom of the car without being broken up. Before this plan was adopted it was the practice to drop the coal from a considerable height to the bottom of the car, from which much breakage necessarily resulted.

The fine coal which passes through the shaking screens is elevated by platform conveyors to the top of a tower co ntaining large revolving screens covered with wire cloth having three-quarter-inch mesh in the larger screen and one-half inch in the These screens are enclosed in dustproof steel cases, which prevents the dust from flying out. When mine-run coal sent directly to the picking tables many of the impurities are so hidden by the fine coal that they cannot be seen by the pickers. To obviate this difficulty the tipple is so arranged that in shipping mine-run coal the fine coal is removed by the shaking screens and elevated to the rescreening tower, where it passes the screens and returned directly to the far end of the picking tables, where it is mixed with the lump as it goes into the car.

In the matter of ventilation the mine is as well equipped as any in the world. The ventilating fan is of the largest size ever built, being 35 feet in diameter and 8 feet wide. The wheels are constructed of steel plates, and are driven by two independent steam engines having cylinders 26 inches diameter and with 48-inch stroke These engines are equipped with special valve gear, intended to combine efficiency with reliability, and ore connected with the main shaft by large friction clutches Each engine is capable of driving the fan alone, and one always remains idle, but is kept ready to take the place of the one at rk in case anything goes wrong. The friction clutch is so arranged that the idle engine may be adjusted, tested light, connected with the fan and tested under full load and then put into service, or held idle, without the fan missing a single revolution. The advantage of this will be appreciated when it is considered that the entire operation of the plant depends upon the constant operation of the fan. The ventilating current of air is so absolutely necessary to the operation of the mine that the instant anything should happen to stop the flow of air every man at work underground would be called out, and the mine would stand lifeless and inoperative. Just as the human system becomes inactive when the lungs cease to perform their function, so the mine must stop work when the air on which the workers live ceases its proper flow. The ventilation here greatly exceeds the legal requirements, and an ample supply of air is sent to the most remote workings at all times.

The mine is carefully drained, the temperature is uniform at from 50 to 60 degrees all the year around, and since the thickness of the seam provides ample head room, and the absence of draw slate in the roof eliminates another great danger to mining, the working conditions in this mine may be said to equal the best to be found anywhere in the country.

The power is generated in a battery of water-tube boilers that aggregate about 3500 horse-power. These are fed by automatic underfeed stokers, and have forced draft. It is interesting to note the instant response which these automatic stokers make to the demands for steam which come from the hoisting engine or elsewhere. The speed of the fan increases, accelerating the draft, and the

pistons of the stokers move more rapidly, increasing the supply of coal on the fire, only to immediately slow down when the demand has been satisfied. The boiler-house is equipped also with improved exhaust steam-feed water heaters, and large pumps for delivering hot water to the boilers for evaporation into steam. The entire power system is complete, having been designed to eliminate any possible shut-down of the plant due to accident or for repairs.

The power-house adjoins the boilerhouse, as do also the hoisting-engine house and the fan-engine house. In fact, all these houses form practically one long building of pleasing design, with brick walls, reinforced concrete floors and steel roof framing covered with reinforced concrete tile, and are roomy and well lighted. The hoisting-engine and fan-engine houses contain traveling cranes for use in installing new machiery or making repairs. The power-house contains two two stage pound air compressors, which deliver through a drilled hole into the mine compressed air at a pressure of 100 pounds per square inch for use in driving the mining machines, which cut all the coal. It also has four-stage compound air compressors, which deliver air at 1000 pounds pressure for running the locomotives used in assembling the coal at the bottom of the shaft. The use of drilled holes in delivering the compressed air into the mine is another safety precaution, as an accident to the high pressure air line might be attended by serious consequences if the line were located in the shaft.

Two electric generators directly connected with high-speed engines furnish electric current for lighting the various buildings for the mine, and also for lighting the town of Annabelle, to which it is distributed by a modern switchboard.

The hoisting engine is a massive type of modern construction, having two drums eight feet in diameter, on which the hoisting rope is wound. It is equipped with a special safety device which prevents the engine runner from hoisting the cage too far. A former source of serious accidents in mining is eliminated by the use of the automatic safety device in this mine, as it shuts off the steam and applies the brakes when the cage has reached the proper level.

The coal is all cut by air machines and blown down with safety powders. Compressed-air locomotives of about six tons capacity collect the cars from the rooms in which the miners load them and deliver them to sidings, where they are made up into trains of 20 to 30 cars and hauled by compound compressed-air express locomotives to the shaft bottom. These express locomotives operate on heavy railroad tracks and are protected by a complete system of block signals similar to the arrangements used on the best railroads.

The arrangement of the underground working is believed to be superior to that of any other mine in the same class in the Pittsburgh seam. It was carefully worked out by the officials of the company as the result of their many years of practical experience, and with special reference to haulage and ventilation. large capacity of this mine, about 4000 tons in ten hours, neecssitated special arrangements for both these items. The entilating current is led through separate headings, in which are contained also the high pressure compressed air for power purposes. Where these air headings cross he haulage headings overcasts or air bridges are built of substantial masonry. There are no doors in the mine, they being considered a menace to safety.

elsewhere. The speed of the fan increases, accelerating the draft, and the was designed by the company's own engineers, great care being taken to provide for substantial construction, assuring long life and economical and continuous operation. All the machinery is in duplicate, so that half the tipple can be operated independently of the other half, and by-pass arrangements are provided by which parts of the operation may be shut down for repairs without stopping the flow of coal.

Mine No. 2, which will be ready for operation in the near future, is close to No. 1, but the workings will be separated by a barrier pillar of 200 feet of coal. The only connection will be by a few wellprotected openings, which will allow comnunication in case of emergency. The workings will be reached by a slope opening having an inclination of about 30 degrees to the horizontal. This slope is now being driven, and will be provided with two tracks, on which will be operated an endless rope-hauling system for delivering oaded cars to the tipple and returning the A manway, separated from the haulage by a brick wall, will be provided, so that the men may walk in and out of the mine in safety. The slope will be lined throughout with brick and concrete, and will be absolutely fireproof. A large tipple, similar to that at No. 1 mine, will be erected. Each of these tipples will have four loading tracks on each side of the two main tracks of the railroad, making 10 parallel tracks in all. The railroad yard will be of ample length, and so arranged that the cars will run by gravity to the tipples and the loaded cars will gravitate to the storage yard below the tipple.

The town of Annabelle is one of the most thoroughly modern mining towns in the State. Fifty neat and substantial brick cottages of four rooms each have been erected on the hillside near the coal plant, furnishing attractiev homes for the workers, while numerous frame cottages of varying sizes furnish dwelling-places for those who prefer that style. There are no double houses, each family having its residence to itself, and each being provided with ample garden space. Modern brick residences of six and eight rooms have been provided for the use of the officials. An ample water supply has been secured by building a reinforced concrete dam across a nearby valley, thus forming a large impounding reservoir, and the water is piped thence throughout the town and into many of the houses.

Thus the Four States Coal & Coke Co. has not only provided for the economical production of coal by investing its money in the best machinery and appliances to be secured, but its officials have looked at the question of economy in a broad and even philanthropic way, seeing that true economy consists in part in providing for the safety, the comfort and the convenience of the men who mine the coal, by which policy the best and most reliable men in the business can be secured, men who will make their real homes at the mines, there to raise their families and spend their lives in the service of employers who show proper appreciation for such service. The contented workman is the man to make money for the company that gives him employment, and in no other way can contentment among those who toil be more surely brought about than in furnishing them safe and profitable employment and comfortable and convenient

The United States Sewer Pipe Co., which is another of the concerns controlled by the "Jones interests," has at Annabelle a large modern brick plant, equipped with the latest machinery for making shale brick, of which it produces an excellent quality. It has provided all the brick for the underground masonry work about the mine and for the brick houses in the town.

It is housed in a substantial brick and steel structure, and it is proposed to make brick and sewer pipe there for the general market.

Thus in a few months' time has a place that was practically a barren waste been turned into a thrifty, money-earning community by the enterprise of those who know how to take from the crust of the earth the riches placed there by the hand of the Creator for man's use and benefit.

NATURAL GAS FOR SAN ANTONIO

Expectations Based Upon Discovery in a Field 60 Miles Distant.

[Special Cor. Manufacturers Record.] San Antonio, Tex., December 7.

Natural gas, which in one well has a pressure of 2200 pounds, found at Crowther, about 60 miles south of San Antonio, induces the hope and belief that natural gas will within the next few years be piped through the streets of San Antonio. The pressure is said to be sufficient to convey the gas to San Antonio in six and eight-inch pipes. It is now piped to the town of Crowther, four miles from the wells, and is used for fuel, power and lighting at about one-half the cost of the manufactured article.

Drilling for oil, a "gasser" was struck at a depth of 368 feet. The well was carried down to a depth of 483 feet, where the oil strata was reached, carrying with it another strong flow of gas. Since that time, several months ago, gas has been struck in several adjacent wells and various tests have been made to establish the pressure and volume.

S. A. Hopkins of Boston, controlling wner in the Boston and Texas Corporation, which owns the property where the gas wells are, says the gas is for sale as well as the oil, and if the company was requested to place a price on the product, this, in all probability, would be complied with. The San Antonio Gas Co, is said to be the logical concern to handle the product, but W. B. Tuttle, general manager of this company, takes the position that be for the expense of building a pipe line is incurred it must be fully ascertained that the quantity of gas is large enough and there is sufficient pressure to bring it to the city.

Tests of the wells will be continued, and if the field is found to meet the requirements it is possible that San Antonio will be supplied with natural gas in the near future.

Standard Alcohol Co.'s Plant Will Cost About \$400,000.

Referring to the Standard Alcohol Co.'s Fullerton (La.) plant, George II. Tomlinson (of that company), offices in the Rookery Building at Chicage, writes to the Manufacturers Record as follows:

"Plant is now under construction for the manufacture of alcohol and other products from sawmill refuse. expected to be in full operation some time in May, 1912. The buildings are being constructed of reinforced concrete, and the contracts for equipment, which is largely of a special nature, are now being placed. The total cost of the plant will be about \$400,000. The process to be employed is known as the Ewen-Tomlinson The plant is to have a capacity of something over 5000 gallons of high-proof alcohol per day, in the production of which the sawmill refuse from the Gulf Lumber Co. will be utilized. The Standard Alcohol Co. is organized under the laws of Maine. with offices at 165 Broadway, New York city. The Hirsch Syndicate of London is largely interested in the proposition. John M. Ewen Company of Chicago, engineer and builder, is in charge of the construction of the plant."

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Tidewater North Carolina as a Market Garden.

[Special Correspondence Manufacturers Record.]

full of interest. Its present is one of increasing activity, inspired by well-grounded confidence. Its future is beyond estima-

In spite of its early associations and ancient towns, it has been a terra-incognita. Today it occupies a prominent place in progressive circles, certain to receive general recognition, such is the wealth of its aggregate possessions.

The sounds, estuaries, inlets and canals have given water transportation to Eastern North Carolina since the early days, but rapid rail connections with the leading markets is only of modern installation. The bridging of Albemarle Sound by the Norfolk Southern Railroad-a wonderful modern engineering accomplishment gave the first direct outlet for the immense productions of land and water. Those water-courses are now the feeders instead of being the dependence, for rapid transit is essential to perishable freight.

Then came a great awakening to the vast possibilities of the swamp and lowlands-2,800,000 acres of the one, 6,000,-000 acres of the other.

Experimental drainage, scientific investigation and persistent determination demonstrated capabilities far beyond the dreams of the optimists or the hopes of the ambitious.

The power of combination was invoked. and in 1908 the North Carolina Drainage Association was organized, the needed laws were enacted in 1999, and in 1911 the fourth convention was held at Elizabeth City. Here it was shown that within so short a period more than 100 miles of canals had been completed and thrice that mileage was in course of construction.

A transformation scene resulted. What had been dismal, impracticable swamps became beautiful fields covered with luxuriant crops, which yielded bountifully.

A soil many feet deep, black as ebony, a compound of decomposed vegetation, mineral silt, the fertility of interior hillsides, had only to shed its surplus water to contribute richly to man's efforts, man's

Its varied capabilities defy contrasts, while the climatic superiorities and the consumption proximities fill up in heaping measure the cup of opportunity and advantage.

It is destined to rival California in grapes, Michigan in celery and New Jersey in cranberries, the entire West in hog-

In the days of abundant labor immense s of grain were raised in large areas and floated cheaply to Norfolk. With the exception of cotton and sweet potatoes, other items were produced because markets for green stuff were not available without rail connections.

In some localities 100 bushels of corn er acre have been the yearly record for 100 years, without rotation, under primi-

tive methods of culture.

Today, with far less labor, modern methods and improved machinery, fewer acres yield more grain and more cotten, plus considerable truck.

Nature has endowed this territory with adaptable soils and a mild climate, while transportation can quickly deliver truck to populous centers, but high standards of cultivation have not been so pronounced as tidewater Virginia has perfected in

Norfolk, Va., December 7. | State has surpassed its immediate neigh-The past of tidewater North Carolina is bor both in advanced methods and in greater yields.

Drainage is making new and flattering history. For it is solving the most important problem of the century, so far as it affects North Carolina. It simplifies the great questions of agriculture, health and good roads, while it excites ambition to the highest plain.

No section of the nation offers greater inducements to the settler who can control his own labor.

Intensive methods in this blessed region re absolutely certain of success.

Soil fertility, mild climate and easy ac cess to markets are a combination of favorable factors which cannot be surpassed.

The wide scope for the selection of crops, moderate prices for land, certainty of enhancement in value defy successful

Westerners who settled some years ago are even more enthusiastic than the natives. Those who recently visited that territory bought land and induced others to do likewise. Larger bodies will arrive later, eager to see the land of great worth as it has been pictured to them by the vanguard. "It is a rich man's proposition." said a capitalist who had proven his faith by buying a large tract. His idea that the lands must be adapted to the settler's needs in size, in drainage, in roads, in price, is an entirely correct one. Pave the way for the intelligent, independent farmer, and he will become a capitalist. Labor alone is needed after adaptation, for then a settler can buy a proper measure without paying a dollar until he has perfected his home and surroundings.

His independence is a surety if he pos ses industry well directed by mental ability. His reception will be all that he can desire, as is evidenced by those who have located and could not be induced to return to their former home.

Mr. Brown has demonstrated the wisdom and the practicability of settling Western people at Chadbourn, in Columbus county. Mr. McRae rejoices in the results of a like experiment near Wilmington, and many others have no reason to regret having followed their example in a modest way. The great Wilkinson farm of 20,000 acres in Beaufort county is an object-lesson for the world's enlightenment. Corn is making 50 to 60 bushels to the acre on land that was a forest the year previous, with-out cultiavtion of any kind. Each year witnesses developments on those 500-acre fields, until the fourth season presents a stretch of clean land covered with agricultural wealth, staple and truck.

These illustrations, with meagre labor, only emphasize the necessity for intensive application, for even the most approved machinery cannot cope with the needed care, shipping and housing requirements.

In the same neighborhood other advanced farmers are making grand displays of what common sense can do, with the use of lime alone, the needed corrective for fresh land, agricultural scenes to

charm any farmer's eye.
. Messrs. Van de Carr, Bagley, Lukins and many others in eminently rich Currituck are, through various processes of education, giving ample evidences of the limitless resources of their lands. They recognize the changed conditions, and tidewater Virginia has perfected in deficiencies of labor in this particular section are largely being made up for by a larg

wise system of aplication, plainly indicated by the size of the cultivated measures in contrast with the insignificant number of available laborers in the field. How they prepare and cultivate the land, gather and ship the crops, is a marvel to all visitors. Right here was cotton, six feet high, filled with bolls and all picked in early November. Thirty acres of old land, with \$2.50 worth of kainit to the acre to weeten the soil, produced 59,128 pounds of seed cotton. Twenty-five acres of corn stuck in the midst of burnt timbers, without a lick of even a hoe, stood 17 feet high and will yield 60 bushels to the acre. All the delicate items of market offerings seem indigenous to that fruitful land; plenty of varied food to be had with proper labor. Bring labor to such a territory, and the great food question will be satisfactorily

I have made no attempt to add any lurid colors to this rural picture. I have stated, in part, what I know to be true, but the comprehensive story cannot be told in this communication.

Other developed sections with which I am not fully familiar afford most interesting statistics. Some that I do knew, but which still await the developer's hand, are just as fertile, just as promising. Ten years' additional experience will find tidewater North Carolina a populous section, abounding in wealth.

The reflection that for 26 years you have conducted an effective educational campaign in advocacy of advanced ideas in Southern agriculture must be very satisfactory now that your teachings are bearing such ample fruit. As a worker in the field of progressiveness, I am proud of the country which lies at the south door of the nation's gateway-a country closely entwined with Norfolk's interests, the two being allied by every consideration of mu-

Your foreign correspondent in a recent issue portrays the exact situation, the immensity of Southern resources and the density of Northern ignorance of those conditions. WALTER SHARP.

THREE SKYSCRAPERS PLANNED.

Columbia Banking Corporations Will Erect Lofty Office Buildings.

[Special Cor. Manufacturers Record.] Columbia, S. C., December 6.

Plans are now well under way for the erection of three new buildings of the "skyscraper" type in Columbia, all of which will be built by banking corporations. The new buildings will contain a total of 392 office rooms. The first building will be erected by the Union National Bank, of which Joseph Norwood is president, at the northeast corner of Main and Gervais streets. This will be a 10-story L-shaped structure with a frontage of 26 feet on Main street and 103 feet on Gervais. The L extension will run back 56 feet from Gervais street. The first floor will be occupied by the bank and by the transfer office of the Columbia street railway company. The exposed fronts of the building will be of white glazed terracotta. The other sides will be built of light-colored pressed brick. The Union National Bank expects to begin construc-tion work about March, 1912. The plans of the building are being drawn by W. A. Edwards, an architect of Atlanta.

The Palmetto National Bank will build a 14-story skyscraper at the northeast corner of Main and Washington streets. This building is being designed by the firm of Israel & Harder of New York. The contract will be let as soon as the specifi-cations are completed. The structure will be built by the Palmetto Construction

National Bank. The entire lower floor of the building will be ocupied by the bank. The building will be constructed of white glazed terra-cotta and white pressed brick. The typical floor plans for the 13 floors above the first will comprise 13 offices, but this will be modified in certain instances to suit the convenience of individual tenants. Julius Harder of Israel & Harder was in Columbia recently to confer with the officers of the bank and the construction company as to the details of the building. These were satisfactorily arranged and the architects will rush the completion of the plans. Wilson & Sompayrac of Columbia are the architects.

Plans for another tall building have been announced by the directors of the National Loan and Exchange Bank. This building will be an exact dupl'cate of its present 12-story building at the southeast corner of Main and Washington streets, and will be connected with it. James Brite of New York, the architect who designed the office building now owned by the bank, will also draw the plans for the new building. It will front on Washington street. It will be connected with the bank's present quarters by a huilding of a different type bur similar architectural design, plans for which have not yet been fully decided. The building will have 143 office rooms above the first floor. Edwin W. Robertson is president of the bank.

A. D. OLIPHANT.

The Birmingham Iron Market.

[Special Cor. Manufacturers Record.]

Birmingham, Ala., December 11. There has been a slackening in the sale of pig-iron during the past week, but when a totaling of orders received during the last five weeks has been made, it will show that Birmingham furnaces have taken very much more business than has been generally accredited to them. Stocks showed a slight decrease during the month of December, as per inventories of furnace yards December 1. With the orders re-cently booked and with some slackening of production during December, which is ex pected during the coming holidays, a still further reduction in stock may be looked for January 1. All told, the situation from an iron producer's standpoint, and from the standpoint of the Birmingham district generally, looks much more promising than it has in many weeks. Prices are quoted very firm on the following schedule f. o. b. cars furnaces this dis-trict for prompt delivery or for any de-livery up to July 1 next: No. 1 foundry, \$10.50 per gross ton; No. 2 foundry, \$10 per gross ton; No. 3 foundry, \$9.50 per gross ton; No. 4 foundry, \$9.25 per gross

tled, \$9 per gross ton. The demand is unusually good this month for coal and coke, and all steam plants are anixous to have shipments of coal hurried to them to tide them over the holidays shut-down. It is expected the Alabama miners will take about one week's rest during Christmas holidays. The cold weather during December also helped the demand for domestic coal. There is at this time an unusually good call for foundry coke, considering condition of the iron market for some months past.

ton; gray forge, \$9.25 per gross ton; mot-

The water-pipe foundries report some good inquiries pending, with prices slightly firmer. Shipments are good to the Pacific coast especially. Prices are still quotable, however, as follows per net ton f. o. b. foundries this district, with \$1 per ton extra for class "A," or gaspipe, viz.: Four-inch to six-inch, \$22.50 to \$23; S-inch to 10-inch, \$22; 12-inch and over. average \$21, with special fittings quotable

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me fair sales of old wheels, but not sufficient to improve prices. It seems difficult to infuse any new life into the scrapiron trade here. There is some fair call, however, recently from Chattanooga, but dealers' prices remain, per gross ton f. o. b. vards Birmingham district, as follows:

Old iron axles, standard, \$15.50 to \$16. Old iron axles, small, \$12 to \$13.50.

Old steel axles, light, \$13 to \$13.50.

Old steel axles, standard, \$14 to \$14.50. Old iron rails, \$13 to \$14.

No. 1 railroad wrought, \$11.50 to \$12. No. 2 railroad wrought, \$8 to \$8.50.

No. 1 country, \$7 to \$7.50.

No. 2 country, \$6.50 to \$7.

No. 1 machinery, \$8.50 to \$9.

Standard car wheels, \$11 to \$11.50. Tram car wheels, \$8 to \$8.50.

Light cast and stove plates, \$7 to \$7.50.

COOSA-ALABAMA IMPROVEMENT.

The Enthusiastic Activities of Capt. W. P. Lay to That End. [Special Cor. Manufacturers Record.]

Gadsden, Ala., December 9. For the opening for navigation of the

Coosa-Alabama rivers Capt. W. P. Lay of Gadsden has worked consistently for over a quarter of a century. He prepared the plan and assembled the data, all of which show his thorough knowledge on the sub-Just how successful Captain Lay's efforts have been may be judged by the fact that the United States Government is spending thousands of dollars at a point several miles below Gadsden building Other locks are planned, and locks. should the whole idea, covering all the rapids and shallow places that retard naviation between Rome, Ga., and Mobile, Ala., materialize, much more money will have to be expended. It will take from 10 to 12 years to assure an average depth of nine feet in the waterways of 800 miles between the two points. The river at the present time is navigable from Rome to Gadsden and from a point several miles below on to Mobile.

Facts and figures have been gotten together by Captain Lay to show the wonderful resources of the Coosa-Alabama Valley and what its products would be worth when fully developed. He states that nine feet of pavigation the year round from Mobile to Rome would be equal to 10 railroads covering the same territory.

Developing hydro-electric power is another possibility for the Coosa River. Should the plan be fulfilled, over 300,000 horse-power could be had. The plant, if erected, will be located between Gadsden and Montgomery, just east of Birmingham. Among the expected uses of this power is electric steelmaking and the derivation of nitrates from the atmosphere along the line that is contemplated for the part of the Southern Power Co. of Charlotte, N. C., and a similar plant now in operation at Niagara Falls, Canada. The electrical steelmaking process will be conducted along the lines now employed in the business in the State of California an I in Sweden.

In addition to its wonderful resources as farming section, the Coosa-Alabama Valley is noted for its mining activities. It is stated that almost every mineral known today has been found in this area. covering about 15,000 square miles in Georgia and Alabama.

The three cities of Gadsden, Attalla and Alabama City, practically one in fact, have a combined population of from 15,000 to 18,000 people. The Gadsden Business Men's Club is one of the leading factors for the upbuilding of the district, with J. D. Dunlay president and Mr. Phillips secretary.

Gadsden has five banks, with total capital of \$500,000 and resources of \$2,133,-000. They are the First National Bank, of the Etowah Fertilizer Co.

Chas. A. Lyerly, president, and R. V. Davidson, cashier; the Gadsden National Bank, E. T. Hollinsworth, president and J. F. Rush, cashier: this is the parent company of the Gadsden Loan & Trust Co., with the same officers; the Alabama Bank & Trust Co., W. C. Bellinger, president, and the Etowah Trust and Savings Bank, J. B. Wadsworth, president. Prec tically all these banks own their own buildings, the Etowah Trust and Savings Bank having recently occupied its now fourstory fireproof builidng.

The Southern Manufacturing Co., which had for many years been doing a good business in Gadsden, until its plant was burned last September, has begun work to rebuild an entirely new fireproof one. The warehouses and office buildings will be erected at once, and contracts for them have been awarded, but before erecting the main buildin Horace Gwin will make a tour of inspection to several Northern and Western plants so as to get the best idea as to how to construct the new one the main building Horace Gwin will make and of brick and cement construction. This company manufactures a full line of sash, doors and blinds.

The Southern Iron & Steel Co. is by far the largest industry in the Gadsden district. John Y. Brooks is the local manager. In adition to the plant proper, which is located at Alabama City and is composed of one blast furnace, six openhearth furnaces, a blooming mill, a mcdern rod mill, wire plant and merchant bar mill, a model villege has been developed, with churches, stores, etc., in easy There is employed at the present time in and around the plant approximately 3500 men.

The Dwight Cotton Mills of Alabama City has two main buildings, one four stories, brick, 374x125 feet, and the other three stories and basement, of brick. This mill has 60,000 spindles and 2000 looms. These mills have developed a model mill village, using in all, factory and village, about 200 acres. The main offices of the company are located in Chicopee, Mass. where the same company owns and operates another cotton mill. Theop. Parsons of Chicopee is the president of the company, and C. H. Moody is the agent in charge at the Alabama City plant.

The Alabama Consolidated Coal & Iron Co. of Birmingham has two furnaces in Gadsden. P. W. Duane is the superintendent. The furnace now in blast turns out daily about 225 tons of pig-iron.

Other Gadsden district industrial plants are the Kyle Lumber Co., which is capitalized at \$250,000 and uses approximately 15,000,000 feet of timber annually in the manufacture of lumber and builders' supplies; the Coosa Pipe & Foundry Co., is capitalized at \$50,000, turns out yearly 12,000 tons soil pipe and fittings; the Campbell Manufacturing Co. soil pipe manufacturers, and the A. & J. Manufacturing Co., makers of stoves, are Gadsden plants of which Otto Agriccola is the president. Other plants are the Gadsden Car Works, Eagle Iron Co., Weller Rolling Mill & Forge Co., Hamomnd Mining Co., Southern Shovel Manufacturing Co., Gadsden Brick Co., Weller-Christopher Manufacturing Co., Fullington's Saw and Planing Mills, Connelly Bros. (boiler works), Gadsden Harness Co., Tri-City Gas Co. and the Quinn Furnace Co.

There are two fertilizer companies in Gadsden, viz., the Etowah and the Gadsden. The Gadsden Fertilizer Co. is a branch of the Planters' Chemical & Oil Co. of Talladega, Ala., with W. P. Archer in charge. It owns a brick building 88x80 feet, and is equipped with the latest machinery. W. L. Sampey is the president

With the vast amount of raw material in the Gadsden district, the enlarging of present and the building of more plants of all kinds, and the Business Men's Club. J. D. Dunlop, president, and W. R. Philips, secretary, behind all the live issues for the betterment of the community. Gadsden is rapidly coming to the front as an industrial center.

ROY G. BOOKER.

THRIVING AT TULSA.

Railroad, Mineral and Manufactur-ing Activities of the City.

[Special Cor. Manufacturers Record.] Tulsa, Okla., December 9.

The industrial growth of Tulsa during 1911 has not been retarded by the financial conditions obtaining elsewhere over the country, or from the shortage of crops general over the country this year. Factory and railroad developments have exceeded any year in the city's history. The great oil refinery of the Texas Company, costing \$1,500,000 and refining 8000 barrels of crude oil daily, will be doubled in capacity during 1912. The factories now under construction include the largest steel-rolling mill in the Southwest; an iron works, two machine mills, three feed and cereal mills, a Portland cement works and plants for the manufacture of automobiles, furniture, washing machines, soap and glassware, and a fourth independent oil refinery of 12,000 barrels daily capacity.

The railroad development of the closing ear has been the most important this city has ever witnessed, Tulsa having been placed upon three transcontinental routes to the Pacific coast, namely, Southern Pacific-Frisco route between Chicago and El Paso, Tex.: Frisco-Santa Fe through line service between St. Louis and Los Angeles, and Midland Valley-Union Pacific through service between New Orleans Denver and Portland, Ore., by reason of the completion of the extension of the Midland Valley from Arkansas City to Wichita.

Tulsa is unique in having three independent street railway and interurban lines, with 28 miles in operation-the Sandy Springs Interurban, the Tulsa Street Railway Co. and the Oklahoma Union Traction Co. The Sand Springs line has complete 12 miles of new track this year, and much of the grading has been done between Tulsa, Red Fork, Taneha and Sapulpa. The city lines have been extended to numerous parks, suburbs and outlying factories.

The long-pending removal of the Frisco Railroad division and shops to Tulsa is taking place, and the Frisco has just pur chased 70 acres of land in West Tulsa for the construction of 22 side-tracks, each a mile long, with a capacity of 2050 freight cars daily. President B. L. Winchell of the Frisco has bought 100 feet of Main street business property, adjoining the present holdings of Chairman B. F. Yoakum of the executive board of the Frisco

Four pipe line companies, three refineries, 13 oil well supply firms, 12 machine shops and 250 independent oil-producing companies are located here. Perryman Pool, Flat Rock, Turkey Mountain and Osage oil field activities have added millions of value in the past 90 days, and promise to outrival the famous Glenn Pool and bring the 1911 production of Oklahoma oil fields far above that of 1910, which was 51,000,000 barrels, or one-seventh the oil production of the entire world

The magnificent 10-story hotel building. costing \$500,000, and the new \$238,000 courthouse, and numerous office and business blocks are in course of construction in Tulsa. Contracts for nine miles more distance of 60 miles, connecting a num-

of street paving have just been let, which will give Tulsa a total of 43 miles of as phalt, brick and macadam paying. Bond for \$660,000 for good roads improvement have been voted and sold during the pre ent year, and work will start soon after January 1, 1912, on 128 miles of macade country roads. Funds have also been pro vided for \$280,000 worth of sewer at water-works extensions, viaducts, sai ways and street improvement.

A recent industrial census of this eig shows that there are employed in the fee tories, mines, railroads, wholesale and met cantile houses, a total of 6477 person with a monthly payroll of \$422,000, or in excess of \$5,000,000 per year. This num ber of wage-earners is approximately fin times the total population of Tulsa show by Government census of 1900.

This solid growth has been brough about by the three great fuels-natura gas, oil and coal; an inexhaustible supply of water afforded by the Arkansas River railroad, farm and factory development and a universal belief that Tulsa is to be come the factory center of the Southwest The future is very inviting, and many close observers anticipate here a popula tion of more than 100,000 when the census returns of 1920 are anounced.

J. BURR GIBBONS.

CENTERED AT DURHAM.

Increasing Transportation and Industrial Facilities.

[Special Cor. Manufacturers Record.]

Durham, N. C., December 8. The central Piedmont section of North Carolina is entering upon a new era of

industrial prosperity and development. The Norfolk Southern Railway Co. is se curing the rights of way for the extension of the main line of its system 100 miles into the central part of the State, with a network of branch lines. The principal towns are being connected by interurban trolley lines. The Southern Power Co. is covering the whole section with electrical ower transmission lines.

The Norfolk Southern Railway Co., which operates about 700 miles of railway in the eastern part of Virginia and North Carolina, recently purchased three small systems, the Durham & Charlotte, the Raleigh & Southport and the Aberdeen & Asheboro, in central North Carolina. The trunk line of the company will be extended from Raleigh to Concord, a distance of a little more than 100 miles. Ffty-five miles of this extension will be constructed outright. Some of the trackage of the smaller companies will be used for the remainder of the route. The extensions contemplated will connect with the system Durham, Greensboro, High Point, Winston-Salem, Concord, Albemarle, Mt. Pleasant and probably Charlotte. The trunk line will extent through the counties of Wake, Harnett, Lee, Moore, Montgomery, Stanley and Cabarrus.

In addition to the work planned by the Norfolk Southern, the Seaboard Air Line Co. is planning to change the route of its main line from Raleigh to Durham. The present route of the main line from Henderson to Raleigh is to be made a branch line, and the branch line from Henderson to Durham is to be made the main lice. Connection will be made with the present trunk line about 25 miles below Durham, and this amount of new road will be constructed. The change is for the purpose of straightening the route. The trunk line will be shortened about 30 miles by the change. The double-tracking of the Seaboard through this section is also contemplated, but this has not been definitely decided by the officials of the company.

An interurban trolley line is now being promoted from Greensboro to Durham, a tanl 90 ' port bric up from the thre

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wo and fro wi tio the the sh line has already been constructed from

Burlington to Haw River, a distance of

12 miles, connecting large manufacturing

plants situated between the two villages. The work on the construction of the line

from Haw River to Durham via Chapel

Hill, where the University of North Caro-

lina is located, will likely begin at an early

date. An interurban line is also being

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constructed from Salisbury to Concord, a distance of 20 miles. All of these lines are entirely independent of the Piedmont Traction Co., which is constructing an interurban line from Durham to Anderson, It is very probable, however, that the shorter lines will ultimately be made a part of the Piedmont Traction system. The transmission lines of the Southern Power Co. have recently been completed to Durham. It is the longest power transmission line in the world. The energy that is now turning the wheels of Durham facls-natural ible supply

> The central section of North Carolina offers exceptional opportunities to home-seekers and investors. During the past few years Durham capitalists have invested more than \$15,000,000 in hydro-electric development and various kinds of manufacturing. The value of the manufactured products of Durham has increased a little more than \$1,000,000 every year for the past 10 years. A large amount of capital is available for assistance in establishing manufacturing enterprises in the city in addition to the other advantages. What is true of Durham is true to a greater or less extent of all of the other towns men-R. ISENHOUR.

tories comes from Great Falls, on the Ca-

tawba River, in South Carolina, 202 miles

NEW FACTOR IN OIL INDUSTRY.

Mexican Petroleum to Be Refined Near Baltimore.

The completion of the 55,000-barrel oil tank at Curtis Bay, Baltimore, Md., by the United States Asphalt Refining Co., 90 West street, New York, marks an important development in the petroleum-oil manufacturing industry. This tank brings the storage capacity of the plant up to 110,000 barrels. The oil is brought from Mexico to the docks at Curtis Bay in 5000-ton tank steamers belonging to the company, and is rapidly pumped through pipe lines into the storage tanks. It is then put through the refining procsses, converted into the various road bitumens and road oils, lubricating oils, etc., and distributed to all parts of the country as may be required. This company will for the present make Curtis Bay the center of its refinery operations. It gets its crude oil from the Pearson interests in Mexico, which control a vast oil output in that country, and are backed by English capital.

As noted in a recent issue of the MANU-FACTURERS RECORD, the contract was made with the Petroleum Iron Works Co. at Sharon, Pa., for the construction of this tank within 30 days from the date of the contract. The rush with which the material was gotten out and shipped within 24 hours has been continued, and the shell of the tank was erected in the remarkably quick time of nine days after the crew, composed of a construction superintendent and four men from the Sharon works, 18 boilermakers from New York and about 40 boilermakers and helpers from Baltimore, commenced work. Notwithstanding unfavorable weather conditions for a considerable part of this time, the work is being completed well within the contract requirements, and the tank is now about ready to receive oil. The shell has been painted with Cunningham protective paint supplied by the Maryland

ber of smaller towns and villages. The Steel Co.'s paint-manufacturing department.

> The refining capacity of the works is such that the oils brought in are handled and disposed of in sufficient time to keep the tank capacity available for a 30,000-barrel cargo from the steamer service on arrival of a steamer from Mexico. This service is continuous, the steamers being devoted entirely to oil transportation for this company.

Shipments of the products of the works will be made to foreign countries, as well as to all sections of the United States. Among the products are illuminating, fuel and gas oils, road bitumens and oils, gum asphalt, Bitose pure bitumen, Parahun:id waterproofing, Bitose pipe dip, insulating compounds, lubricating oils. Bintiform paint thinner, fillers and fluxes. The works are located on the Baltimore & Ohio Railroad, and the Crutis Bay docking facilities for deep-draft vessels are at hand.

TO DEVELOP 60,000 POWER.

Ococe River Hydro-Electric Plant Nears Completion.
[Special Cor. Manufacturers Record.]

Cleveland, Tenn., December 9.

The Eastern Tennessee Power Co. is just about completing its dam on the Ocoee River, 18 miles from here, and will begin delivering power on January 1. It. is the intention to furnish power in Cleveland, Chattanooga and Knoxville. Tenn., and in Rome and Dalton, Ga., and a number of intermediate points. The machinery is already installed, the transmission wires between here and the dam and between the dam and Chattanooga, and probably on some other lines, are already strung, and the last small gap in the dam will be completed in good time for starting the wheels on the first day of the rap-

idly approaching new year.

The present dam is 800 feet long and 110 feet high, and will back the water up to cover 2000 acres. It will develop 25,000 horse-power. A second dam will be built at once a short distance above the lake made by the first, and by building a flume of some length and digging a tunnel through Big Frog Mountain a fall of 500 feet will be secured. The power developed at this dam will be 60,000 horse-GEO, BYRNE.

A Business Plea.

W. D. Nesbitt, president Warrant Warehouse Co., Birmingham, Ala., writing to the MANUFACTURERS RECORD regarding a recent article in its columns on the part to be played by the motor truck

in handling the cotton crop, says:
"There is no one matter which can be so advantageously promoted for the benefit of this Southern country as the question of good roads. Give this country firstclass roads, 'and all other things will be added unto us.' Whenever good roads are a fact, the question of local freight rates will be 75 per cent. settled. Improvement of waterways in certain instances will favorably affect long hauls, but good roads will move the tonnage on short hauls, relieve the railroads of what they claim to be an unprofitable part of their business, and rapidly develop tonnage that will move over the railroads long distances at low but paying rates."

Wants Addresses of Crude Kaolin Shippers.

Robert L. Steele, president Steele's Mills, Rockingham, N. C., wants to know addresses of parties operating and ship-ping kaolin in the crude state (not washed). He understands that there is a concern in Georgia, near Atlanta, that is shipping this clay in the crude, and desires the address of that concern.

GOOD ROADS

FOR HIGHWAY IMPROVEMENT.

American Association Mapping Out the Year's Work.

For the purpose of mapping out the year's work, the directors of the American Association for Highway Improvement held a meeting in Washington last week. Logan Waller Page presided. It was decided to continue the policy which proved so successful in the first year of the association's existence, aiding all local organizations in all their plans for arousing interest in the movement and in the actual work of road improvement.

The report of J. E. Pennybacker, Jr., executive secretary of the association, showed that as the direct result of missionary work done by the American Association more than 100 new local and State associations were formed in various parts

of the country during the past 12 months. "From this report," said Mr. Pennybacker, "it is apparent that the road movement in the United States is now crystallized in such a manner that every section of the country is covered by local workers, who are agitating and actually aiding in the work of building new roads or improving those already in existence."

Hon. James S. Harlan, Interstate Commerce Commissioner, was elected chair-man of the board of directors of the association; W. W. Finley, president of the Southern Railway Co., chairman of the executive committee; Thomas Nelson Page, chairman of the membership committee; Wm. T. Beatty, president of the Austin Manufacturing Co. of Chicago, chairman of the finance committee, while John B. Thayer, vice-president of the Pennsylvania Railroad, and Lewis H. Parker, president of the South Carolina Cotton Manufacturers' Association, were elected to fill vacancies on the board of directors. Among the directors present at the meeting were W. W. Finley, president of the Southern Railway Co.; Lee McClung, Treasurer of the United States; L. E. Johnson of the Norfolk & Western Railway; Archibald H. Huston, president of the Ohio Good Roads Federation, and John J. Duff of Washington.

200 Miles of Sand-Clay Roads.

[Special Cor. Manufacturers Record.] Lagrange, Ga., December 8.

There was started two years ago in Troup county, of which Lagrange is the seat, a movement to place all the main highways leading out of the county-seat in first-class condition. According to C. H. Griffin, chairman of the County Commissioners, this campaign has resulted in more than 200 miles of sand-clay roads in the county. The first movement of the campaign was to vote a \$200,000 bond issue. Immediately following came the awarding of four different contracts to four different contractors, who at the present time are about finishing their work on the roads and have employed in all about 100 laborers and are using about 150 mules. Refore the year has gone the whole of the amount realized from the sale of bonds will have been expended on the roads. In addition to the contract work, there have been about 50 convicts working unceasingly for the past two years completing work not covered by contracts.

Most of the already constructed good roads are composed of sand and clay. In a number of instances the sand and clay had formed naturally in the road, and it took only the work of shaping them and placing a crown on them on the part of the convict labor and they were ready for use. On the other roads, however, the roadbeds were formed of sand and mica, walk,

and so the proper kind of clay had to be ROY G. BOOKER. assembled.

New Example in Road Building.

Commercial Club, Midland, Tex., December 6.

Editor Manufacturers Record: In order to encourage their neighbors in the adjoining counties of Andrews and Gaines, and to demonstrate to them the great advantages both in time and money which accrue from the building of model highways, the city of Midland is building stretches of roads several miles long in both counties. Having decided to assist their neighbors, the citizens of Midland determined that nothing was 100 good for them, and arranged to secure the services of a good-roads engineer from United States office of public roads. This engineer proceeded at once to Andrews county, 40 miles distant, with a large force of men and all the necessary machinery, and began the work of construction. When this road is completed he will then move his crew to Gaines county, 75 miles distant. This action on the part of the citizens of Midland is, as far as is known, an exhibition of public spirit and enterprise without parallel in any other part of the country. It is sure to give a great impetus to good road building all over West Texas.

T. C. CARRINGTON, Secretary,

Oklahoma Road Materials.

The notable activity for improved high-ways in Oklahoma will undoubtedly be given a great impetus by a butletin which has just been issued by the State Geological Survey on the road materials and road conditions of Oklahoma, prepared by L. C. Snider, assistant director of the survey, which has its headquarters at Norman. Though described as a preliminary report, the bulletin goes quite into detail in discussing the advantages of good roads, and some general articles on the properties of road materials, the construction and maintenance of earth, sand and sand-ciay roads, paved roads and streets, road laws and road administration are followed by descriptions by localities of the various materials for road building in the counties of the State.

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Anderson, Tex.-Road District No. 1 voted \$125,000 bond issue for road construction.

Apex, N. C .- City voted \$10,000 bond ssue for street improvements and market-

Gainesville, Tenn. - Jackson county voted \$150,000 bond issue for road construction.

Bonds to Be Voted.

Kissimmee, Fla.-City will vote December 19 on \$25,000 bond issue for street improvements.

Sanford, N. C .- Lee coun'y will vote January 16 on bond issue for road improvements.

Victoria, Tex .- Road District No. 1 of Victoria county will vote December 21 on \$40,000 bond issue for road construction, and Road District No. 2 will vote same day on \$200,000 bond issue for road construction.

Contracts Awarded.

Bonham, Tex.-City awarded contract to construct 30 blocks of concrete sideBrandon, Miss.—Beat No. 2 of Rankin county awarded contract at \$25,000 to construct and improve 65 miles of road, to include 75,000 cubic yards of earth, 1000 cubic yards of soft rock and 28,000 square yards sand-clay surface.

Dadeville, Ala.—Tallaposa county awarded contract to construct about nine miles of road to cost \$8000 to \$10,000.

Kissimmee, Fla.—City awarded contract for five blocks of paving.

Jacksonville, Fla. — Duval county awarded contract to grade portion of Kings road and New York avenue.

Norfolk, Va.—City awarded contract for street paving and laying sewer and water pipes, for which \$83,520 is available.

Oklahoma City, Okla,—City awarded contract to pave eight blocks, containing about 9000 square yards of surface.

Tulsa, Okla.—City awarded contract at \$135,586.46 to pave 73 blocks with rock asphalt.

Tulsa, Okla.—City awarded contract to pave about 50 blocks to cost about \$135,000.

Contracts to Be Awarded.

Arcadia, Fla.—City will ;eceive bids until December 20 to construct two miles of concrete sidewalks.

Binghamton, Tenn.—City engaged engineer to superintend construction of street paving.

Brewton, Ala.—Escambia county will receive bids until January 5 to drain and surface with sand-clay about nine miles of road.

Carthage, Mo.—City opened bids December 11 to construct 700 square yards of asphaltic concrete pavement.

Crowley, La.—City will expend about \$10,000 to construct aproximately 10,000 linear feet of street crossings.

Denison, Tex.—Property-owners will construct one mile of asphalt paving on Gandy street.

El Paso, Tex.—City will pave portion of Arizona street at a cost of \$46,081.88, of which \$7933.49 will be paid by city, \$15,-849.25 by El Paso Electric Pailway Co. and \$23,099.15 by property-owners.

Fort Worth, Tex.—City received bids until December 12 for construction of about 7000 square yards of paving

Gadsden, Ala.—City Council will receive bids until December 18 to construct 2295 square yards of concrete sidewalk, 50 yards concrete driveway, 2140 linear feet of 8-inch curb, 36-inch gutter, 100 linear feet concrete 5-foot gutter, 6 catchbasins and 1400 cubic yards grading.

Joplin, Mo.—City contemplates constructing 13,404 square yards of liquid asphalt paving to cost \$25,108.65; will also construct curb and gutters.

Little Rock, Ark.—City will receive bids until December 20 to grade, curb gutter, drain and construct sidewalks.

Louisville, Ky.—City will pave wharf from 1st to 2d street with granite blocks at a cost of \$7000, and Louisville & Jefferson Ferry Co. proposes to construct concrete walk from 1st and Water streets to dock at foor of 1st street.

Magnolia, Miss.—City will award contract January 8 to construct 19,000 square yards of concrete sidewalks to cost about \$12,000.

Mobile, Ala.—Bids will probably be opened about January 5 for street paving to cost approximately \$120,000.

Mt. Sterling, Ky.—City will construct brick payement on several streets.

Tallahassee, Fla.—City will expend about \$60,000 for vitrified brick paving.

Tyler Point, Tex.—City will pave sidewalks, probably of brick, for waich bond issue of \$12,000 was recently voted.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

MEMPHIS TO PORT BARRE.

Frisco Has Not Determined Its Route.
Possibly Will Meet Missouri
Pacific.

A. S. Greig, vice-president of the Frisco system, St. Louis, says that its projected line between Memphis, Tenn., and Port Barre, La., about 325 miles, will be of .3 per cent. maximum grade and will provide the system with a connection between its northern lines and its lines to the southern part of Texas. The low grade will from Brownsville. Tex., north apply through Houston and Port Barre to within a few miles of St. Louis, or about 1200 miles in all. This will give the Frisco about the longest low-grade line in this country. The route is not definitely determined, but it is generally level.

It appears from this that the object of Col. B. F. Yoakum and his associates in the St. Louis & San Francisco Railroad Co. in securing a charter for this Louisiana, Arkansas & Memphis Railway is mainly to obtain a direct route between St. Louis and possibly Chicago to Texas and Mexico, for the Frisco lines in the Lone Star State connect with the Brownsville-Matamoras bridge that will be the gateway for a new route to Mexico City. In well-informed circles it is doubted whether the entire line will be constructed, but it is surmised that an arrangement will be made to connect with the Missouri Pacific's Iron Mountain line in Louisiana and thus use that route from Memphis south to the connecting point. This could be used to enter New Orleans, but the opinion seems to prevail that the route hich the Frisco and the Louisville & Nashville have outlined east of the Mississippi River by connecting up with the New Orleans, Mobile & Chicago road will e considered the principal entrance of the Frisco to the Crescent City.

Construction of the Memphis-Port Barre line immediately north of Port Barre will be difficult, it is said, because the route lies partly through the Atchafalaya swamp. Nevertheless it seems that construction of the line in Louisiana was decided upon when Chairman Yoakum and President Winchell recently visited New Orleans, where the charter was prepared by the Frisco's attorneys.

PENSACOLA TO TUSCALOOSA.

Meridian & Deepwater Road Will Use Megargel's Line to the Gulf. President R. C. Megargel of the Gulf.

Florida & Alabama Railway is quoted in a report from Pensacola, Fla. as saying that the Meridian & Deepwater Railway, which is under construction from Meridian, Miss., eastward to the Tombigbee River in Alabama, has made arrangements to enter Pensacola over the line of his road, and will connect with it about 135 miles north of the city. There is also a suggestion under consideration that a connection be made with Selma, Ala., but no decision has been reached. The connection with Meridian is expected to prove a valuable feeder.

Mr. Megargel is further reported saying that financing for construction is fully arranged, and nearly all of the first bonds have been placed. The survey to Tuscaloosa, 225 miles, is expected to be finished by February. Trains are to be operated for 80 miles by April. The line from Pensacola to Cantonment is being completed, and the line of the Southern States Lumber Co., which was acquired, is in very good condition, and with some repairs

will, it is stated, compare favorably with other roads in the South. When this much is in operation construction will begin from the northern terminus of the present track to a connection with the Southern Railway's line from Birmingham to Mobile. Contractors are now preparing to bid on this work. It is expected to be completed by the end of next year. Construction of the Pensacola terminals is to be started immediately.

GALVESTON-HOUSTON.

Important Texas Interurban Now in Operation—Drainage Work on the Line

Galveston-Houston Electric Railway, construction of which began in the spring of last year, has been completed and is now in operation terminal to terminal it is about 55 miles long, and the cars, which operate at hourly intervals, make the run in 100 minutes. While the line is now single, the roadbed is wide enough for another track. are 14 stopping points between the two cities. Entrance to Galveston is over a big concrete causeway, the construction of which held back the opening of the rail-way several months. The building of this bridge over Galveston Bay was paid for by all the railroads using it, together with Galveston county, Texas.

Construction of the railway was planned and executed by the Stone & Webster Engineering Corporation of Beston. The chief problem in the work was drainage, as the route is through a lowland where there are sundry streams and bayous. But on each side of the railroad a drainage ditch was dug, and experience thus far indicates that these, with the lateral ditches which have been made, will be ample to keep the roadbed dry and always serviceable. This work was done in harmony with the plans for organizing drainage districts through the region, and al ready the lands immediately adjoining the railroad have been considerably benefited by it. The country is well adapted to fruit and vegetable farming, and the electric railway service, frequent and operating from early in the morning until late at night, is expected to cause a development of considerable magnitude. It is believed that the line will be made double track within five years.

A notable fact about this road is that for 36 miles it is perfectly straight. There are also practically no grades, excepting where the track rises at Houston to traverse a iong concrete viaduct over the steam railroads. The line is substantially built, the rails weighing 80 pounds per yard, and they are laid on heavy cypress ties. The equipment consists of the most modern electric interurban railway cars, each 53 feet long and seating 54 pasengers. Their maximum speed is more than a mile a minute. Adequate terminal stations have been erected in both Galveston and Houston.

THROUGH A RICH REGION.

Traction Line for Louisiana Will Traverse a Garden-Like Country.

A report from New Orleans quotes one of those interested as saying that the Chapman Construction Co. of St. Louis. Henry K. Johnson, Vicksburg, Miss., president, has the contract for building the railway of the Southwestern Traction & Power Co. from Berwick to Lafayette, La., via Jeanerette and New Iberia, about 60 miles, including a cross line (to be constructed after the main line is finished) from Abbeville to Loreauville, La., about 25 miles.

All obstacles to the work apear to have been removed, the injunction suits to restrain the payment of bonuses having been withdrawn. The route will be along the Bayou Teche in a region thickly populated and devoted to agriculture. It is described as being almost a continuous town along the line. Other towns than those named which will be reached are Breaux Bridge, St. Martinville, Baldwin, Franklin, Patterson, Garden City, Charenton and Bayou Sale. There are also numerous villages.

It is anticipated that the investments to be made in connection with the enterprise will reach a total of about \$3,000.000, although the announced capitalization is \$1,500,000. It is planned to crect a handsome hotel at Spanish Lake and make a fine resort there. Owing to the beauty of the whole region, it is expected to become popular as a winter resort after transportation and hotel facilities are provided.

The Southwestern Traction & Power Co. will have its headquarters at New Iberia, La., where its power-house is to be built. At present the headquarters are in the Godchaux Building, New Orleans. The directors are F. W. Crosby, president; Lawrence Blum, vice-president; R. E. L. C. Ries, secretary and treasurer: Leon Wolf, Irving Saal, Alex. Hyman, Jules Dreyfus and A. G. Barrow.

New Lines Organized.

Among the new railroad enterptises recently organized or chartered are the following:

Maryland-Virginia Railway Co., chartered in Virginia to build a line about 30 miles long from Nauch Station, in Alexandria county, to Manassas, in Prince William county; capital from \$100,000 to \$1,000,000; headquarters at Alexandria, Va.; incorporators, Alexander Suter, president; Samuel L. Monroe, vice-president; G. Washington Lewis, secretary and treasurer; Noel N. Garner, Gardner L. Boothe, Richard B. Washington and J. Randall Caton, all of Alexandria, Va.

Shearwood Railroad Co.; application made for charter in Georgia; proposed line from Brooklet to Claxton, Egypt and Clyo, about 50 miles. There are at present several miles operated, which are the beginning of the line. Licorporators are John A. Calhoun of Philadelphia, M. J. O'Byrne and John E. Foy of Savannah, George M. Brinson of Springfield, Ga., and J. H. Shearouse, T. R. Bryan, P. C. Waters, George E. Wilson, H. M. Robertson, J. A. Warnock, John L. Lane, T. H. Waters, J. H. McElveen, Wayne Parrish, D. L. Alderman, C. C. DeLoach and J. C. Denmark of Bullock county, Georgia.

Grandview Railroad Co. chartered in Missouri to build a line in St. Louis county from the southern limits of St. Louis city through the south and west parts of the county to the Olive Street road, about 19 miles; capital \$200,000; incorporators, Frederick Herkert, Sr., president of the St. Louis Trunk Hardware Co.; Frederick Herkert, Jr., H. E. White, George H. Martin and N. S. Wood; capital \$200,000.

Georgia, Alabama & Western Railroad Co.; application filed for charter in Georgia to build a line about 150 miles long from Milltown to Blakely, Hahira, Barney, Pavo, Meigs and Coolidge, the western terminus being the Alabama boundary beyond Blakely; capital \$200,000 to \$3,000,000; incorporators, E. H. Beck, T. A. Rozier, F. B. Walker, W. W. Webb and L. M. Stanfield of Hahira, Ga.; Rebert Barfield, J. E. T. Bowden and G. W. Deen of Waycross, Ga.; J. Frank Harris and John A. Kennedy.

Birmingham & Chattanooga Railroad Co.; incorporated in Alabama to build a line from Birmingham, in that State, to Chattanooga, Tenn., about 135 miles; capital \$5000; headquarters at Boaz, Ala. Capital is to be increased as desired. Line will run through Jefferson, St. Clair, The 10-wh from The Raily 1060 500 for ican

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Blount, Etowah, Marshall, Jackson and Nashville, Chattanooga & St. Louis lines peKalb counties, Alabama; Dade county, Georgia, and Hamilton county, Tennes-see; route via Boaz and Albertville, Ala. J. M. Spradlin of Boaz is president of the company, and W. W Shortridge of Albertville is vice-president and secretary. D. J. Spradlin of Boaz is also a director.

New Equipment, Rails, Etc.

The Georgia Railroad has ordered two 10-wheel and two switching locomotives from the Baldwin Works, Philadelphia.

The recent orders of the Misouri Pacific Railway, totaling 3000 cars, are thus: 1000 gondola, 500 box, 500 automobile and 500 furniture cars to be built by the American Car & Foundry Co., St. Louis, and 500 box cars to be built by the Standard Lola, all in Kentucky. Steel Car Co. of Pittsburgh at its plant in Hammond, Ind.

The Memphis Street Railway is reported to have ordered 15 all-steel cars of the pay-as-you-enter type.

The Northern Texas Traction Co. has eived 12 new cars from the Cincinnati (0.) Car Co. They are of nearly all-steel enstruction.

The Quanah, Acme & Pacific Railway has ordered a six-wheel switching locomotive from Baldwin's

The Maryland Steel Co., Sparrows Point, Md., it is understood, will make about 7000 tons of rails for the Atlantic Coast Line.

The Nashville, Chattanooga & St. Louis Railway has ordered 10,000 tons of rails from the Tennessee Coal, Iron & Rail-

road Co., Birmingham.

The Kansas City Southern Railroad has ordered eight chair cars, five baggage and express cars and three combination cars from the American Car & Foundry

The Harriman Lines are reported to have ordered from the Pullman Company, Chicago, 65 all-steel postal and baggage

The Dallas (Tex.) Electric Street Railway has received 10 new cars from the Cincinnati Car Co.

The United Railways & Electric Co. of Baltimore has put 25 pay-as-you-enter cars on its St. Paul street line, these being semi-convertible cars of the Brill make, which were remodeled.

The New Iberia & Northern Railway is reported to have ordered three gasoline electric motors.

The American Car & Foundry Co., says late report, will build 14 mail cars and 15 baggage cars for the Missouri Pacific

The Pensylvania Railroad, according to a report quoting an official, will at present order no more than 200 of the 70-ton steel gondola cars 52 feet long, and not several thousand, as was stated in a press report.

The Gulf, Florida & Alabama Railway is reported to have ordered six locomotives and 200 cars to be delivered before

The Davis, Turner Falls & Southwestera Railroad Co. (C. C. Ricker, secretary, Davis, Okla.) will consider offers to furnish from 6 to 10 miles of 60-pound relaying rails subject to Hunt's inspection.

Kentucky Southwestern Electric.

E. F. Wheaton, Indianapolis, Ind., vicepresident and general manager of the Ken-tucky Southwestern Electric Railway, Light & Power Co., says that bids for construction and equipment will be opened about April 1 next. The proposed line is 206 miles long from Uniontov'n to Hickman, Ky., via Wickliffe, Paducah, Mayfield and Clinton. Two bridges will be required across the Cumberland and the Tenbessee rivers. Connections will be made with the Henderson Interurban at Uniontown; with the Illinois Ceniral and the letc.

at Paducah, and with the Mobile & Ohio Railroad at Wickliffe. The directors are H. C. Rhodes, president, Padacah; E. F. Wheaton, vice-president, Indianapolis; R. H. Scott, treasurer, and John D. Smith, secretary, both of Paducah; W. A. Calhoun, chief engineer, Buffalo, N. Y.; L. Rubel and Chas. W. Thompson of Paducah, Ky.; H. W. Davis, Wilmington, Del.; L. H. Randolph, Bandana; J. D. Williams, Clinton; N. R. Farris, Salem; T. F. Owen, Milburn; J. W. Turk, Bardwell; C. W. Wilson, Smithland; C. J. Barlew, Barlow; C. H. Ellis, Sturgis; Dr. Jas. R. Lee, Columbus; Will H. Covington, Ragland; J. O. Evans, Spring Hill; H. E. Worten, Hampton, and W. L. Kennedy,

Railroad Notes.

The Virginian Railway Co. says it is not yet in a position to make public plans in regard to shop and other facilities at Princeton, W. Va. It was recently reported that the company would spend a large sum to install improvements there.

John T. Witt, 104 Gaston Building, Dallas. Tex., says that the railroad for which he has just obtained a franchise will be 10 miles long from Dallas to Eagle Ford, and will connect several cement plants. Over the Trinity River there will be two 100-foot and one 125-foot through girder steel spans. The line will be operated with gasoline electric motor cars, and the track will be laid with 70-pound rails. The route is through rolling country.

Three Menhaden Fish Enterprises-Two Are Capitalized at \$900,000.

A big oil and fertilizer plant will be established at or near Jacksonville, Fla., by the Southern Menhaden Co. of that city. This company was chartered last month with a capital stock of \$500,000, and it will fish extensively for menhaden, which abound in large quantities in Florida waters and can be caught during the entire year. The company will soon be in the market for machinery. Its offices are in the Bisbee Building, and Bertram D. Lackey is general manager.

The Chincoteague Oil & Guano Co. of Chincoteague Island, Va., has been incorporated, and is a consolidation of the Hinson & Tonison Company with the Hoyne & Snow Company. It is capitalized at \$400,000, and will build a plant to manufacture fertilizer and oil from menhaden fish. Besides buying from other fishing boats, the company will operate six steam ers, and its fertilizer and oil plant will have a daily capacity of 1,000,000 fish. L. E. McGill will be manager.

A plant for manufacturing oil and fertilizer from fish will be operated at Jacksonville by M. R. Delaney and associates of Philadelphia. It is installed on the steamship Mills for a monthly capacity of 2000 tons of dried fish scraps and 3000 barrels of oil, the daily capacity being 10,000 barrels of fish. The oil produced will be used for painting and tanning leather. It will be made from the men-haden fish, and the scrap will be the fcrtilizer. A by-product of the plant will be acid. The owners of this enterprise will also operate four seagoing tugs, manned by a full crew capable of handling four yawls carrying seines 1200 feet long and 100 feet deep. About 200 men will be employed.

It is reported that the Asheville (N. C.) Cotton Mills will expend \$50,000 to build dyehouse, improve cottages and make other betterments. This company has 10,100 ring spindles, 450 narrow looms, etc., for manufacturing plaids, chevio's, shirting,

MINING

Wealth in Sand and Gravel.

More than \$21,000,000 worth of sand and gravel was dug for sale in the United States in 1910. This is a figure not many million dollars removed from our present annual production of silver. According to a report by Ernest F. Burchard just issued by the United States Geological Survey, the production of glass sand, other sand and gravel in 1910 was 69,410,436 short tons, valued at \$21,037,630, against 59,565,551 short tons, valued at \$18,336,-990, for 1909.

This increase in production of nearly 10,000,000 short tons and in value of over \$2,700,000 is due to the more extensive use of sand and gravel in concrete construction work, building sand constituting nearly half of the entire output for the year. During recent years, particularly in the large building centers, there has been a greater general appreciation of the importance of using proper sand and gravel in cement concrete, so that leading architects and builders are requiring sound, clean, washed material.

The Geological Survey formerly made field and laboratory studies of many kiuds of sands and gravels in localities where Federal buildings were in course of construction. These studies have shown great variations in the quality of sand and gravel used at different places for making con-Some contractors contend that run-of-bank sand and gravel are the best for making concrete, but this contention is generally not sustained by practical trials and experiments. The most desirable material is that which is free from clay, loam or dust. Mica, pyrite or limonite also is objectionable, if present in large quantity. A coating of dust on gravel prevents its proper contact with cement, so that such pebbles are easily broken out of the concrete.

The following table shows the tremen dous increase in production of sand and gravel in the last nine years, which is largely coincident with the growth of the cement industry in the same period, cement production having increased from 25,274,949 barrels in 1902 to 77,785,141 barrels in 1910:

Sand and Gravel Produced in the United

Stat	es, 1902-1910,	in Short	Tons.
Years.		Quantity.	
1902		1,847,901	*\$1,423,614
		2,110,660	*1,831,210
1904	**********	10,679,728	*5,748,099
1905	**********	23,204,967	11,223,645
1906	********	32,932,002	12,698,208
1907		41,851,918	14,492,069
1908		37,216,044	13,270,032
1909		59,565,551	18,336,990
1910		69,410,436	21,037,630
*Includes	only a ve	ry small	quantity of

Llano-Burnet Minerals.

The United States Geological Survey has recently issued, as Bulletin 450, a report entitled "Mineral Resources of the Llano-Burnet Region, Texas," by Sidney Paige. The region covered by the report includes portions of Llano, Mason and San Saba counties, in central Texas, and a geologic map of the whole State is con-tained in the bulletin. The results of many examinations of the iron ores of this region are given and Mr. Paige states that although in some places the ron-bearing deposits may be expected to hold their size and character to a depth of several hundred feet, the ore is not of sufficiently high grade to warrant the railroad construction required for transportation. The report gives the results of many assays of specimens that were said to contain gold, but the quantities of gold found were so small as to be valueless for mining. The copper, graphite, rare metals and structural materials found in the area are discussed briefly. Mr. Paige describes crease of 46,372 bales.

granite of three types, and states that there is an enormous quantity of clean granite in the region, much of it well suited for large structures were transpertation better and a more active market available. The area contains several active granite quarries. The Granite Mountain quarry, located on the Houston & Texas Central Railroad near the town of Marble Falls, has furnished material for the Capitol Building at Austin and for courthouses in Galveston, Houston and other places.

A copy of the report will be sent on application to the Director of the Geological Survey at Washington, D. C.

Tight Cooperage Stock.

The production of tight barrel staves of all classes in the United States in 1910 was 355,660,000, and of headings 26,073,-754 sets. Twenty-seven States have tight cooperage industries, but 87 per cent, of the total stave production in 1910 was from Arkansas, Kentucky, Louisiana, Missis-sippi, Tennessee, West Virginia and Alabama, and 79.3 per cent. of the heading output was from Arkansas, Tennessee, Kentucky, Mississippi, Louisiana and Mis-souri. Among the individual States, Arkansas ranked first in 1910 in the production of staves, its output having been 107,185,000, or 30.1 per cent. of the total, and in headings with 7,260,885 sets, or 27.8 per cent, of the total. Tennessee was second, with 60,938,000 staves and 5,390,-978 sets of headings. Mississippi was third in the production of staves, with 42,905,000, and Kentucky was third in the heading output, with 3,068,332 sets.

Food Products, Drugs, Etc.

Andre Romberg, Cauderan, near Bordeaux, France, writes to the Manufac-TURERS RECORD:

"My business is that of special agent for food products, drugs, crude materials for manufacturers, etc., and I should like to get a list of firms who might be desirous of having at this place an energetic agent who would operate for them on commission. Bordeaux is well situated for such work. My trade's principal demands are for cottonseed oil, petroleum, wood and staves for barrels and casks, canned goods, canned foods, dried fruits. I am now the agent at Bordeaux for the Growers, Fruit Product Co. of San Francisco, as well as for the American Fruit Product Co. of Rochester. I would like, in adidtion to the above, to get into communication with some concerns producing lard, hams, cock-

A \$252.840 Land Sale.

Referring to reports of a big land sale in Arkansas, Barney & Hines (Inc.) of Memphis wire the MANUFACTURERS REC-ORD as follows:

"Deal was 12,642 acres of timber land in Poinsett and Craighead counties, at \$20 per acre, recently bought by Barney & Hines from Stearns Salt & Lumber Co., Ludington, Mich., and sold to Arkansas Real Estate Trust Co., Belleville, Ill.; syndicate organized to take over tract, Barney & Hines retaining an interest, and will operate at once, seiling timber in log to Memphis mill and colonizing land later."

The Cotton Movement.

In his report for December & Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 90 days of the present season was 7,730,867 bales, an increase over the same period last year of 971,581 bales. The exports were 4,089,-104 bales, an increase of 669,585 bales. The takings were, by Northern spinners, 860,823 bales, a decrease of 149,070 bales; by Southern spiners, 820,920 bales, an in-

TEXTILES

[A complete record of new textile enter-rises in the South will be found in the Construction Department.]

spondence relating to textile matters especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to

COTTON CROP ESTIMATES.

Government Figures on 14,885,000 Bales of 500 Pounds Each.

The crop reporting board of the bureau of statistics of the United States Departs ment of Agriculture estimates, from the reports of the correspondents and agents of the bureau, that the total production of cotton in the United States for the season of 1911-12 will amount to 7,121.713,000 pounds (not including linters), equivalent to 14,885,000 bales of 500 pounds gross weight. The estimated production, with comparisons, by States, follow:

States.	Pounds lint-
Virginia	10,957,000
North Carolina	445,808,000
South Carolina	706,404,000
Georgia	1,223,168,000
Florida	35,135,000
Alabama	765,280,000
Mississippi	572,046,000
Louisiana	188,810,000
Texas	2,051,832,000
Arkansas	438,102,000
Tennessee	201,054,000
Missouri	39,757,000
Oklahoma	438,102,000
California	5,258,000
All other	*******
United States	7,121,713,000

COTTON IN 1910-11.

An Analysis of the Supply and Distribution of the Staple.

According to the report of Director Durand of the Bureau of the Census on the supply and distribution of cotton in the United States for the year ended August 31, 1911, the total supply of cotton in the United States for the year was 13,-873,423 running bales, counting round half bales and including linters. In 1910 the supply was 12.188.021 bales, and in 1909, 15,312,885 bales. The variations represent in the main differences between e crops produced in the United States. The total amount of ginnings for the 12 months ended August C1, 1911, was 12,-

The total quantity of cotton imported into the United States during the year amounted to 236,114 bales of 500 pounds each. The equivalent of 4923 bales of 500 pounds each was re-exported, leaving in the country 231,191 bales. The increase over the net imports for 1910 is 79,796 bales, and is due to the increase in the Nearly all imports of Egyptian cotton. the cotton imported is Egyptian and Peruvian.

Of the total supply of cotton for 1911, 4,716,978 bales, or 34 per cent., were conumed in this country; 7,781,414 bales, or 56.1 per cent., were exported, while 1,375,-031 bales, or 9.9 per cent., remained in the country at the close of the year. Of the supply for the preceding year, 39.5 per cent, was consumed at home, 52 per cent. was exported, and 8.5 per cent, remained in the country.

The consumption of cotton, including that destroyed by fire, in the United States for the year covered by the report was 91,975 bales less than during the

The exports during 1911 were 7,781,414 bales, or 1.442.386 greater than for the previous year, when they were the smallest for any one of the last six years.

The stocks of cotton in the United

amounted to 1.375.031 bales, compared with 1.040.040 bales on the corresponding date in 1910 and 1,483,585 bales in 1909. Those held by manufacturers in growing States amounted to 101,114 bales. and those held by manufacturers in all other States amounted to 441,077, or a total of 542,191 bales, which is the smallest amount for any year, excep: 1910, since the inauguration of the reports in 1905. and represents less than a six weeks supply for the American cotton mills operating under normal conditions.

In independent warehouses and other public storage places there were 432,840 bales August 31, 1911. The amount held by other holders is placed at 400,000 bales.

The number of cotton spindles, designed primarily to spin cotton, returned as having been operated during the year 1911 was 29,522,597, while 1,281,065 spindles were returned as idle and as having conumed no cotton whatever during the year. Of these, 407,496 spindles were in plants not operated during the year and 873,569 in mills which consumed some cotton.

In the total number of cotton spindles Massachusetts leads with 10 613,290, or -Bales of 500 pounds, gross weight .-

		Average 5 yrs.
	1910.	1905-1909,
1911.	(Census.)	(Census.)
23,000	14.815	12,084
935,000	706,142	610,268
1,480,000	1,163,501	1,068,802
2,560,000	1,767,202	1,765,231
73,000	58,949	58,127
1,600,000	1,194,250	1,196,571
1,195,000	1,262,680	1.387,331
395,000	245,648	580.047
4,280,000	3,049,409	3,070,723
915,000	821,233	816,280
420,000	331,947	290,205
83,000	59,633	48,076
915,000	923,063	734,604
11,000	5,986	*******
*******	4,158	2,202
14,885,000	11,608,616	11,640,551

34.5 per cent, of the total for the United States; South Carolina ranks second, with 4.187.317, or 13.6 per cent., and North Carolina third, with 3,353,706, or 10.9 per cent.; Rhode Island ranks fourth, Georgia fifth, New Hampshire sixth, Connecticut seventh and Maine eighth. No other State reports as many as a million spindles.

In adition to the spindles designed primarily to spin cotton, 456,242 spindies were returned in 1911 as having consumed raw cotton mixed with other fibers during the year. Of this number, 120,031, or 26,3 per cent., were returned from Pennsylvania; \$3,400, or 18.3 per cent., from York; 53,558 from Massachusetts, and 45,239 from Conecticut.

The quantity of cotton consumed in the United States during the year ended August 31, 1911, was 4,704,978 bales, compared with 4.798.953 bales in 1910 and 5,240,719 bales in 1909. It is the smallest amount for any year, except 1905, since the inauguration of the reports in that year, when the amount consumed, exclusive of foreign cotton, was 4,278,980 bales. and also of 1908, when it was 4,539,090 bales. The average weekly consumption of cotton in the United States last year amounted to about 90,000 bales, compared with 92,000 in 1910, 101,000 in 1909, 87. 000 in 1908, and 96,000 in 1907. During the first six months of the year ended August 31, 1911, the quantity of cotton consumed amounted to 2,402,032 bales, while the quantity consumed during the last six months was 2,302,946 bales.

In consumption Massachusetts ranks first, using 1,144,345 bales, or 24.3 per cent, of the total for the country; North Carolina second, with 696,987 bales, or 14.8 per cent.; South Carolina third, with 618,698 bales, or 13.1 per cent.; Georgia fourth, with 488,738 bales; New Hampshire fifth, with 259,458 bales; Alabama sixth, with 247,179 bales, and Rhode Island seventh, with 218,034 bales.

Out of the total quantity, 4,704,978 bales, consumed, 175,430 bales were for-

cotton-growing States depend almost entirely upon upland cotton for their supply, only 98,262 bales of other kinds. which 10.923 bales were foreign and 7987 bales Sea Island, being consumed by them during the year ended August 31, 1911. In all other States out of the total quantity of cotton consumed, 134,507 bales were foreign and 56.250 bales Sea Island. included in 347,966 bales of other than

The statistics of consumption and active spindles measure the growth of cotton manufacturing. Since 1890 the number of spindles in the United States has more than doubled, and though the quantity of cotton consumed in 1911 was less than that in 1909 or 1910, the consumption for 1909 was more than twice as large as that for 1890.

The most significant fact, the bulletin states, is the rapid growth of the industry in the cotton-growing States. During the nine years ended with 1909, the consumption in these States increased 67.7 per cent., while in the New England States it increased only 12.3 per cent., and in all other States 23.1 per cent. The consumption of cotton for the year ended August 31, 1909, in the cotton-growing States unted to 48.7 per cent, of the total for the country, compared with 40.9 per cent, for the New England States, and 10.4 per cent, for all other States. The onsumption of cotton for the year ended August 31, 1911, in the cotton-growing States was 49.5 per cent, of the total for the country; for the New England States, 40.6 per cent., and for all other States, 9.9 per cent. Of the total number of spindles operated during 1911, 37.6 per cent, were in the cotton-growing States, 55.9 per cent. in the New England States and 6.5 per cent, in all other State

While the amount of baled cotton held in the United States reported in 1911 was 334,991 bales larger than the corresponding amount held a year previously, the country has not in recent years been so bare of old cotton. Had it not been for the extraordinarily large ginnings from the crop of 1911 prior to September 1 771.297 bales-the stocks held August 31, 1911, would have been much lower than on the corresponding date for any of the years since the Census Bureau began the present series of cotton reports in 1905. Stocks held by manufacturer; on August 31, 1911, amounted to 542,191 bales, and are the smallest for any year, except 1910, since these statistics have been collected by the bureau.

The large quantity of cotton-432,840 bales-held in independent warehouses and other public storage places on August 31, 1911, is due chiefly to the extraordinarily large ginnings from the crop of 1911 prior to September 1. Stocks held on that date were within 11,786 bales of the largest quantity for any year shown. Texas returned 169,270 bales, or 39.1 per cent. of total for the country.

The exports of domestic raw cotton from the United States in 1911 amounted to 7.781,414 bales, which exceeded the amount for the previous year by 1,442,386 bales, or 22.8 per cent., but were smaller than the exports for 1909, which amounted to 8.574.024 bales. All but 17.1 per cent. of the cotton exported during the year is eredited to ports within the conton-growing States, only 1,329,684 bales being exported from ports in other States.

In 1911 Galveston, with 2,761,529 bales, ranked first among the ports in the export of cotton. New Orleans, with 1,513,023 bales; Savannah, with 913,430 bales; New York, with 744,479 bales, and Wilmington. N. C., with 383.112 bales, follow in the order named. The combined exports for States at the close of August, 1911, eign, 64,237 bales Sea Island and 206,561 the first three ports named amounted to

bales linters. The manufacturers in the 5,187,982 bales, and represent two-thirds of the total for the country.

The total quantity of domestic raw con ton exported during the year ended June 30, 1911, amounted to 8,067,882 bales of 500 pounds each, valued at \$585,318,809 Of this cotton, 3,461,054 bales, per cent., went to the United Kingdom; 2,202,707 bales, or 27.3 per cent., to Ger. many, and 1,021,998 bales, or 12.7 per cent., to France, these three countries taking 82.9 per cent. of the total quantity exported.

The production of Sea Island cotton in 1910, according to returns of ginners, 90,368 bales, equivalent to 35,540,000 pounds. A little more than 25 per cent of this crop was exported, as compared with 31.2 per cent. of the previous year's crop and 37.6 per cent, of the crop of 1907. The United Kingdom took more than two thirds of the entire amount exported during the year ended August 31, 1911, and France most of the remainder. The quantity consumed in this country during the year amounted to 64,237 running bales, which added to the quantity exported, 22,-308 bales, indicates a small addition to stocks of this kind of cotton over those at the end of the previous year.

The value of cotton goods of dor manufacture exported during the fiscal vear 1911 amounted to \$49.851.918 More than one-half of this amount is accounted for by the exports of cotton cloth, which amounted to 346,590,169 square valued at \$24,387,099. Unbleached cloths amounted to 165,417,652 square yards. valued at \$11,798,194. Nearly on half of this unbleached cloth was sent to China. More than \$10,000,000 worth of deed colored and printed cloths were experted daring the year. The most important customer for these was the Philippine Islands. Of the other cotton goods exported, Canada was the largest customer.

The total value of imports of cotion manufactures into the United States for the year ended June 30, 1911, amounted to \$64,056,473, the largest part being accounted for by laces, edgings, embro and the like, valued at \$35,924,612. Switzerland is the largest contributor of this kind of goods. During the year thread to the value of \$4,218.214 was imported, nearly all of which came from the United Kingdom. The imports of kni. goods amounted to \$4,176,515, practically the

Wide fluctuations appear in the value of cotton goods exported from the United States. Examined in connection with the value of manufactures, the values of exports indicate the extent to which the manufacturers of cotton goods in the United States are confining their activities to the home market. The value of the cotton goods manufactured in the country in 1909, as returned at the census of 1910, not including hosiery and knit goods, the manufacture of which has largely become a branch of the cotton industry, amo to more than \$625,000,000, while the exports for the fiscal year 1909 amounted to only \$31.878.566. The values of imports of cotten goods show less variation from year to year.

Sale of Griffin Mills.

The recently advertised sale of the Boyd-Mangham, Spalding and Central cotton manufacturing plants of Griffin, Ga., was held on December 9. The properties were sold subject to approval or rejection on December 20 by the United States Court. The highest bids were as follows: Boyd-Mangham at \$70,000 to J. H. Nunnally; Central at \$40,000 to George W. Parret Spalding at \$48,000 to Boling II, Jones; all of Atlanta, Ga. These properties are said to have represented an original individual investment of about \$750,000, and

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it is rumored that the bidders named are representing reorganization interests.

Anchor Duck Mill Addition.

The Anchor Duck Mill of Rome, Ga., has completed its three-story 80x100-foot brick addition, for which J. F. Dupree & Sou received contract in September. This new building will be equipped with machinery. The building contractors have also erected 13 operatives' cottages and will erect three more for the company. At present the Anchor plant has 14,000 spindles, 42 bag looms, 18 broad looms, etc.

For Woolen Goods.

The Patchett Worsted Co. of Keyser, W. Va., will erect aditional building and install machinery to manufacture woolen

MECHANICAL

A \$400,000 STORAGE BATTERY.

The Consolidated Gas, Electric Light & Power Co. Expends This Sum to Insure Efficient Service.

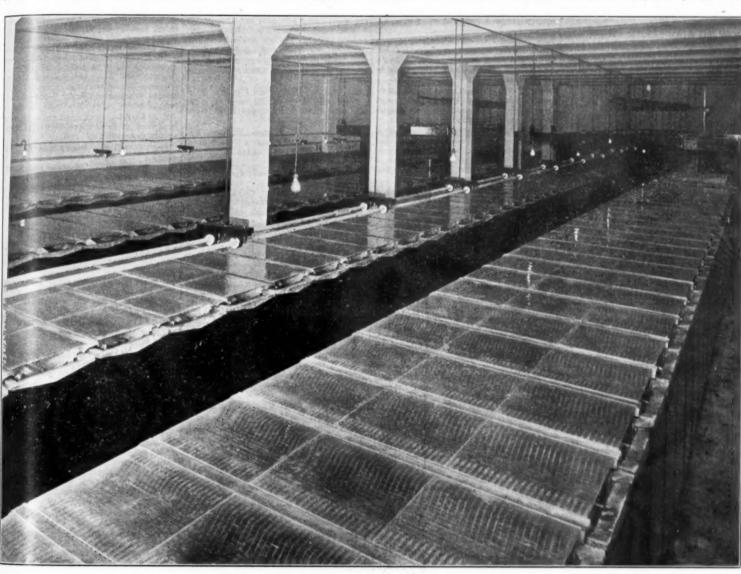
The largest single storage battery ever installed anywhere has been placed in service in Baltimore by the Consolidated Gas, Electric Light & Power Co. The accompanying illustration indicates the extent of this great battery plant, which has been installed simply to insure for consumers uninterrupted service in the pes-This company now has 3000 sible event of failure in the supply from

the battery by adding a second story, for which provision has been made in the structural design of the building.

"battery house" The new was constructed by J. Henry Miller of Baltimore from the designs made by the power company's officers, who also superintended the work of construction. It is built of remforced concrete, with brick curtain walls. The flooring and foundation are made extra heavy to support the great weight of the battery. The construction follows the practice and requirements of the Association of Edison Illuminating Companies, 55 Duane street, New York, which association has standardized many con- the room into the open in a purified condi-

of the battery as installed is 616 tons, stantly connected to the bus bars, supply-The floor space covered as shown in the illustration is 45x116 feet. This may be duplicated in case of future additions to steam-generating plant, the battery will automatically assume the load without any interruption. It is charged from the power supply by means of the direct cur-rent "booster set" manufactured by the General Electric Co. of Schenectady. The extensive switchboards were furnished partly by the Westinghouse Electric & Manufacturing Co. and partly by the General Electric Co.

In order to keep the battery-room clear of the slight amount of gas which is generated, an exhauster fan has been installed on the roof of the building. This is for the purpose of sending the air from



THE LARGEST SINGLE STORAGE BATTERY IN THE WORLD

worsted spindles for manufacturing, the Westport power station and the Mc-1 struction features and designs in connec-1 tion. The air is drawn through an airworsted yarns.

The German-American Plant.

The Thread Mill Co. of Monticello, Ind., has bid in the German-American Company's plant at \$513,000. This property is located at Draper, N. C., and it includes 22,032 ring spindles, 5280 woolen spindles, 2040 twister spindles, etc.

To Add 2500 Spindles.

The Tallapoosa (Ga.) Mills will add 200 spindles, and has awarded the contract for this machinery. This company is at present operating 10,000 ring spindles and accompanying equipment.

In the wood distillation industry, 1.450,439 cords of wood were used in 1910, of which 1,257,997 cords were hard woods and 192,442 cords were soft woods.

Call's Ferry hydro-electric plant. The cost of the building, grounds and storage battery amounts to about \$400,000.

This battery was manufactured by the Electric Storage Battery Co. of Philadelphia. Fifty-two freight cars were required in transporting its constituent parts to Baltimore. It consists of 152 cells, each about 2 feet square and 41/2 feet high. Each cell has 132 lead plates, making a total of 20,216 plates or electrodes. These electrodes weigh 303 tons, and are immersed in 138 tons of electrolyte. The top of the cells are fitted with heavy glass plates to prevent the electrolyte from splashing over while the battery is being charged and to reduce the evaporation of the electrolyte. They are arranged in four rows of 38 cells each, and are connected

tion with electrical installations. The floor on which the battery is supported is covered with "Kushequa" tile, especially manufactured for such use, and was furnished by C. T. Willard Company, Inc., 110 E, 23d street, New York.

The battery will deliver 44,000 amperes at 250 volts for six minutes, or 11,000amperes for one hour. The capacity at the six-minute rate is 11,000 kilowatts. It will be able to carry the entire directcurrent load to supply the power and lights supplied by the present power plants for a period of one-half hour for ordinary demands. During the daytime, when few lights are in use, or in the early morning hours, when both power and light demands are reduced, it will carry the load for several hours, always, of course depending on the magnitude of the load at with copper bus bars. The total weight the time of the discharge. It is kept con-trated.

filtering screen and an air-washing compartment by means of which the impurities are removed from the air before it is exhausted into the outer air. This exhauster fan is a 60-inch "Conoidal" fan built by the Buffalo Forge Co. of Buffalo. It handles 12,000 cubic feet of air per minute, and is motor driven. It was furnished through Murphy & Lewis, sales engineers, Land Title Building, Philadelphia, Pa.

The installation of this important adjunct to the power-producing facilities is a matter of particular interest, not only to the present users of electric power and light in Baltimore, but to manufacturing interests in general, from the fact that the principle of assured reliability and power supply has been exemplified and the means of attaining this reliability is illus-

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Construction Department

TO OUR READERS!

In order to follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to rify the items reported in its Construction Department by full investigation. It is often Impossible to do this before the item must he printed or else lose its value as news, and ne Items it is found advisable to mak In some items it is found advisable to make statements as "it is reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. always glad to have our attention called to

HOW TO ADDRESS

The name of one or more incorporators a newly incorporated enterprise should ways be shown on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new erns will occur.

WRITE PERSONAL LETTERS

In communicating with individuals and irms reported in these columns a letter writfirms reported in these columns a letter writ-ten specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped en-velope should be enclosed with letter.

In correspondence relating to in-formation published in this department, it will be of advantage to all concerned if the Manufacturers Rec-ord is mentioned.

The Daily Bulletin of the Manufac turers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invalu-able to manufacturers, contractors, engineers and all others who want to engineers and all get in touch at the earliest moment with new undertakings, or the en-largement of established enterprises. subscription price is \$25 p . On all advertising contracts the Manufacturers Record for three months or longer a subscription to the Daily Bulletin is included for the contract period.

BRIDGES, CULVERTS, VIADUCTS

Ala., Dauphin Island. — Dauphin Island Railway & Harbor Co., T. W. Nicol, engineer, Mobile, Ala., is reported as to begin construction in January of proposed draw-bridge and trestle connecting Dauphin Island with mainland; trestle will, it is stated, be of steel and reinforced concrete, four m long, and drawbridge at Grant's Pass about 100 feet long; will not begin dock nents until railway-is completed. (Pre nely detailed.)

Washington.-District Commission included in annual estimates submitted to Congress item of \$5000 for preparation of plans for bridge at Calvert St.; expected to nvite competitive bids; estimated cost ranges from \$250,000 to \$500,000.

Fla., Jacksonville.—Duval County Commis-loners awarded contract to Southern Bridge Co., Macon, Ga., at \$2410 to construct two reinforced concrete culverts 24 feet long over Creek at Dinsmore on King's Kierman & Co., White Water, \$14,200 to construct reinforced concrete bridge across Goodby's Lake on John Anderson highway, to have 11 spans, 30 feet each; Gall L. Barnard, County Engineer. (Recently mentioned.)

Fla., Tarpon Springs.—Tampa & Tarpon Springs Land Co. and others will construct bridge across Whitcomb Bayou; cost \$2500; on file with company; specifications be obtained from John J. Hedrick, Jr.,

Ga., Atlanta. - City will construct steel

bridge with reinforced concrete approaches at Bellwood Ave.; bids received until Janu 15 . R. M. Clayton, chief of construction 'Machinery Wanted.")

La., Olivier.-Iberia parish will construct di bridge across Bayon Teche; L. A. Mo, president Police Jury, Jeanerette, La e "Machinery Wanted.")

Md., Baltimore.—City is asking bids on re-loval of Warren truss bridge and construction of steel-plate girder bridge over tracks of Baltimore & Ohio Railroad at Monroe St. and the sum of the state of the McCay, City Engineer, Department of Pub Improvements; deposit of \$5 required ecently mentioned. (See "Machinery

N. C., Goldshoro _Dr W W Falson N. C., Goldsboro.—Dr. W. W. Frison, su-perintendent State Hospital, will receive bids until January 3 for furnishing and erecting steel work for 30-foot span steel bridge over Little River, near State Hospital; D. E.

Okla., Davis.-Davis, Turner Falls & Southwestern Railroad Co., C. C. Ricker, secretary, will construct bridge across Washita River. (See "Machinery Wanted.")

Tex., Dallas. - John T. Witt, 104 Gaston ldg., will construct two (one 100-foot and one 125-foot) steel through-girder spans across Trinity River on line of proposed 10-mile railway from Dallas to Eagle Ford, Tex.

Tex., Texarkana.—Texas & Pacific Railway (C. H. Chamberlin, chief engineer, Dallas, Tex.), St. Louis Southweaters fairway (C. D. Purdon, chief engineer, Tyler, Tex.) and Kansas City Southern Railway (C. E. Johnston, chief engineer, Kansas City, Mc.) awarded contract for construction of proposed Oak St. viaduct, 1600 feet long, connecting Broad St. in city proper and Carmichael Hill, suburb; Phoenix Bridge Co., Philadelphia, Pa., has contract to build viaduct proper, and Austin Bros., Dallas, Tex., for foundation; cost \$150,000. Tex., Texarkana.-Texas & Pacific Railway foundation; cost \$150,000.

Va., Lynchburg. — Committee will recom-nend plans and bid of Virginia Bridge & Iron Co., Roanoke, Va., for bridge to be built from Fredonia Ave. to island recreaion grounds of Young Men's Christian As-ociation; cost about \$4100; C. L. DeMott is engineer.

Petersburg.-City voted \$212,000 bond issue for bridge, street and other improve ments: R. D. Budd. City Engineer, may be

Va., Spotsylvania.-P. St. J. Wilson, State vay Commissioner, Richmond, Va., re-bids until December 18 (extended for construction of two steel bridges in Spotsylvania county; plans and specifi cations on file with County Clerk: previously (See "Machinery Wanted.")

W. Va., Charleston.-Kanawha county will construct fron-truss bridge, not less than 208 feet long, with roadway of 16 feet clear width, across Poca River; bids received until December 26; F. G. Burdette, County Road Engineer. (See "Machinery Wanted.")

Va., Charleston .- City will construct W W. Va., Charleston.—Crty win construct trestle-work and fill connecting Bigley and Pennsylvania Aves. across Magazine Branch; bids received until December 18; J. S. Ross, City Recorder. (See "Machinery Wanted.")

CANNING AND PACKING PLANTS

Brooksville. — Consolidated Canning Fred S. Gray, general manager, Jacksonville, Fla., will establish cannery.

Ga., Rome .- O. N. Richardson, care Rome Soil Pipe Manufacturing Co., and associates contemplate erection of tomato canning fac-tory for next season.

Ky., Louisville,-Dixie Canning & Preserv ing Co. incorporated with \$50,000 capital stock by D. J. Etly, John F. Hagan, John M. Upton and others.

Miss., Natchez.-Natchez Packing Co. will install 50-ton refrigerating machine; con-

tract for machinery awarded.

S. C., Central.—Cottage Industrial Association incorporated with \$2500 capital stock by L. G. Clayton, W. L. Thompson and J. M. Hancock, for manufacturing, canning and farming.

Tex., Alvin.-S. D. Price, president Price-Manufacturing Co. San Antonio, Tex., is considering establishing pickling and

foung Men's Progressive League, is corre-ponding with Fort Worth (Tex.) capitalists establishment of packing plant elative to apacity to be 250 cattle, 250 sheep and 500

CLAYWORKING PLANTS

... Fort Worth.-W. A. Tyer, 1118 Travis vill be manager of brick plant to be established : Sanderson process. (See "Machinery Wanted.")

Va., Fairmont-Brick and Tile.-Fair mont Brick & Tile Co. incorporated with \$50,000 capital stock by W. T. Block, Harvey Shain, C. O. Henry, H. J. Ross and J. A.

COAL MINES AND COKE OVENS

Ark., Hartford.-Hartford Smokeless Coal rporated with \$6000 capital stock : S. Blackburn, president; O. C. Hansen, vice president; John W. Tyler, treasurer.

Ky., Harlan.-Harlan Town Coal Co. porated by B. A. Morton, J. K. Griffin others of Knoxville, Tenn.; will develop

Ky., Harlan.—Clover Fork Coal Co. Incorporated with \$50,000 capital stock by A. F. Whitfield, Calus Whitfield and B. W. Whit-

Ky., Sergent .- M. J. Moss, Pineville, Ky., and Lewis Bros. and Frazier & Hoag, Whites-burg, Ky., leased coal rights in Letcher county and will develop.

Tenn., Memphis.—Muhlenburg Coal Co. in-corporated with \$25,000 capital stock by A. A. Strange, H. F. Gormang, Frank Cavanagh, K.P. Cary and John V. Bruegge.

Tex., Fort Worth.—Southwestern Fuel Co. acorporated with \$60,000 capital stock by Herman L. Smith, Thomas D. Ross and Francis A. Douglass.

Va., Pulaski.-H. B. French purchased 20 oal land and propo W. Va., Bluefield.-Nenonah Coal & Coke

Co. will construct tipple at No. 2 coal mine.
W. Va., Charleston.—Spruce Fork Co. incorporated with \$400,000 capital stock by
Willam M. Humphreys, Jr., J. K. Wilcox, J. L. Montgomery, Frank L. Whitely and T. Truxton Stiles, Jr., of Philadelphia, Pa.

W. Va., Fairmont.-Jolliffe Coal & Coke Co. president, secretary and treasurer; will sell or lease property on royalty basis.

CONCRETE AND CEMENT PLANTS

Demopolis-Portland Cement.-Demopolis Business League wires Manufacturers Record as follows: "Plant of Alabama Portland Cement Co. purchased by capitalists of El Paso, Tex., headed by T. M. Wingo, presi-dent American National Bank; will increase capacity to 2000 barrels; details not per-fected; will employ 200 men." Further unconfirmed report says price was about \$100. nt daily capacity is 500 barrels includes 400 acres of limestone

COTTON COMPRESSES AND GINS

Ala., Trimble, R. F. D. No. 1 from Cullman Trimble & Daniel are rebuilding cotton gin, etc., recently reported burned. (See "Lumber-manufacturing Plants.")

Okla Mead -N. A. Slins, Durant, Okla, rebuild plant recently reported burned; nouse 20x52 feet; engine and boiler-room 26x32 feet; cotton-storage house 22x30 feet; seedhouse 22x40 feet : cost, complete, about \$7250; construction probably in March; daily capacity 35 bales.

Tex., Lawn.—Dewey Farmers' Union Gin Co., J. J. Montgomery, president (recently noted incorporated with \$10,000 capital stock), will operate plant of 36 bales daily capacity building completed; cost of machinery

Tex., Stephenville.-Farmers' Union Gin & g Co. incorporated with \$15,000 capital by Jonce Lewis, P. F. McInroe, J. R. Rucker and others

COTTONSEED-OIL MILLS

S. C., Columbia-Swift & Co. (main offices Chicago, Ill.) will rebuild cottonseed-oil recently burned at loss of about \$100,000.

S. C., Leesville.—Leesville Oil Mill Co. will ebuild cotton-oil mill reported burned at loss of about \$100,000; has not determined details

Tex., Donna.-B. H. Hooks is interested in Tex., Jacksonville.-R. S. Bolton, secretary organization of company to establish combined cottonseed-oil mill, ice and electric light plants.

DRAINAGE AND IRRIGATION

Ark., Gleason.-Commissioners Cadron Loel Ark., Grason.—Commissioners Cadren Loek and Dam District, J. D. Collier, president, Conway, Ark., have had surveys of district made by G. H. Burr; about 20,000 acres to be reclaimed; construct concerte dam across Cadron Creek, which will be provided with ocks for preventing overflow River; engineers estimate cost of locks and dam with necessary levee work at \$56,000. (Previously mentioned.)

Miss., Robinsonville.-Mary Mac Plantation Memphis. Tenn., adopted specification drainage system on lands near Robb conville, on Yazoo & Mississippi Valley Rall. coad; 7½ miles dredge ditches, last 2½ miles having bottom width of 18 feet; remainder 12-foot bottom; average depth 8 feet; total 12-100 bottom; average depth 8 feet; total execuation dredge ditches, 216,000 yards; lateral ditches required have general bottom width of 3 feet, depth of 2½ to 4½ feet, with average of about 3½ feet; greater part of these in open fields; bids received 2 P. M. December 30; information obtainable from Morgan Engineering Co., 610 Goodwyn Insti-tute, Memphis. (See "Machinery Wanted.")

Mo., Kingston. — Caldwell county voted bond issue for canal improvements. Address County Commissioners.

Tex., San Antonio,-Fowler Bro awarded contract for erection of dam near Fowlerton (not "Foglerton," as recently incorrectly stated.)

Midland.-Henry M. Halff 7680 acres; proposes to drill wells for irriga-tion and develop for farming, making specialty of alfalfa.

ELECTRIC PLANTS

Ga., Cuthbert.—City will arrange for con-truction of electric-light plant; bond issue struction of electric-light sold. Address The Mayor.

Ga., Manchester.—City voted \$15,000 bond issue for construction of electric-light plant; will probably receive bids in February; J. S. Peters, City Clerk. (Recently mentioned.)

Cadiz.-Alexander Bros. will erect elec tric-light plant: water-power. oted to have purchased franchise.

Ky., Whitesburg .- D. C. Mullins & Sor Partridge, Ky., will establish electric light and power plant; machinery purchased. Md., Frederick. — James K. Hendricks,

Charles Town, W. Va Record as follows: "I Va., wires Manufact "High-tension power from electric plant of Winchester & from electric plant of Winchester & Washington City Railway Co. at Miliville in direct line to Brunswick, Md., to furnish power preşumably for proposed electric road from Jefferson to Brunswick line to be built; construction will be first class in every respect; for further information wire D. M. Swink, general manager, Miliville, W. Va." (Mr. Hendricks mentioned last week in connection with surpsy.) week in connection with surbey.)

Mo., Mokane.-C. E. Mosley will establish electric-light plant.

N. C., Maiden.-City contemplates install-Ing electric lighting system to obtain power from substation of Southern Power Co. of Charlotte, N. C. Address The Mayor.

N. C., Shelby.—City voted \$13,000 band issue to acquire Shelby electic light and power plant; will assume control May 1, 1912. Ad-dress The Mayor. (Recently mentioned.)

Tex., Decatur.-City will vote January 2 on \$18,000 bond issue to purchase and impi Decatur Water, Light & Power Co.'s plant damaged by fire; \$10,000 is to be expended for purchase and \$8000 for improvements. for purchase and \$8000 for improvements Address The Mayor. (Recently mentioned.)

Tex., Donna.-B. H. Hooks is interested in organization of company to establish com-bined electric-light plant, cottonseed oil mill

Tex., Seadrift.-G. W. Huff, Corpus Christle has franchise and will construct electric-light plant.

Tex., Tioga.—City granted franchise to C. 3. Glasscock for electric-light and power plant.

install electric-light plant; purchased

terial. W. Va., Sistersville.-Sistersville Electric u. va., Sistersyllie.—Sistersyllie Electric Light & Power Co. awarded contract to John J. Rea, Clarington, O., to erect addition to power plant; 45x75 feet; equipment includes two engines of 1000 horse-power each and

switchboard.

FOR the benefit of business concerns, engineers, con-

others who find it profitable to follow up daily the indus-

trial, commercial, railroad and financial development of

the South and Southwest as published in this Construction Department, we issue every business day in the year a Daily Bulletin of the Manufacturers Record.

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limited possibilities for the creation of business, for secur-

ing contract work, for the sale of machinery and sup-

plies of all kinds, for bond buyers and others, are to be

found through a close following up of the news in the

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FERTILIZER FACTORIES

Ala., Dothan .- Home Guano Co. will build

factory.

Fia., Jacksonville. — Southern Menhaden
Co., Bisbee Bidg., organized by Charles H.
Munger, Robert Pennington and associates,
will establish oil and fertilizer plant; capital stock, \$500,000; Bertram D. Lackey, general manager. (Recently noted incorporated
under "Miscellaneous Factories. See "Ma-

chinery Wanted.") Ga. Savannah.-Phosphate Mining Co., W. Ga. Savannah.—Phosphate Mining Co., W. R. Peters, president, New York, is proceeding with plans for previously noted acid plant. Vice-president J. M. Lang of Savannah and 55 John St., New York, wires Manufacturers Record: "Will commence building acid-phosphate plant this month; capacity \$6,000 tons; cost \$300,000; dimensions mill and storage, 170x700 feet; acid chambers and furnace-room, 76x800 feet; construction, concrete brick, lead and frame buildings." Previous advices from company stated provision vious advices from company stated provision would be made for doubling capacity of this plant and other plants were contemplated.

plant and other plants were contemplated.

Va., Chincoteague Island.—Chincoteague off & Guano Co. Incorporated with \$490,000 eapital stock; is consolidation of Hinton & Tonison Company and Hoyne & Snow Company; will build menhaden fish fertilizer factory with daily capacity of 1,000,000 fish; operate six fishing steamers, besides buying from other fishing boats; will manufacture fish off as by-product; L. E. McGill will be

PLOUR FEED AND MEAL MILLS

Ala., Trimble, R. F. D. No. 1 from Cullman. Trimble & Daniel are rebuilding grist mill, etc., recently reported burned. (See "Lum-her-manufacturing Plants.")

Ky., Frankfort.-Frankfort Roller Mills Co. incorporated with \$10,000 capital stock by Scott Brown, P. U. Gibson and Guy H.

Mo., Sarcoxie.—Boyd & Prigmore Milling Co. has organized with Richard Prigmore president, G. A. Boyd vice-president, Jay J. Boyd secretary-treasurer; will operate mill and elevator; no bids asked. (Recently noted incorporated with \$3000 capital stock.)

Mo., Sarcoxie.-Boyd-Prigmore Milling Co. neorporated with \$9000 capital stock by Rich-rd Prigmore, J. J. Boyd and G. A. Boyd.

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham-Heating Plants.-Wheelock-Hammond Heating Co. incorporated with \$500 capital stock for general heating purposes, construction of furnaces and heating apparatus for buildings; Charles F. Whee-lock, president, Birmingham, and L. W. Ham-mond, secretary-treasurer, Cincinnati, O.

Ga., Rome — Mill Supplies, etc. — Georgia Supply & Machinery Co., W. H. Fickling, manager (recently noted as taking over property of Georgia Foundry & Machine Co. and to establish supply store), will purchase stock for jobbing business. (See "Machinery Wanted.")

Md., Baltimore—Iron.—W. L. Baker is president of Patapsco Iron Works, recently noted incorporated with \$5000 capital stock; company's plans will be announced later. (Mr. Baker is not president of Chesapeake Iron Works, as recently reported.)

Mo., Hannibal—Motors.—Long Silent Motor Co. Incorporated with \$12,000 capital stock by Elmer C. Long, Frank R. Tate and Theodore

Engine Co. contemplates, it is reported, es-

tablishing plant in Joplin.

Mo., Kansas City - Stoves. - Duffy-Trowbridge Stove Manufacturing Co., C. A. Trow-bridge, vice-president, Hannibal, Mo., is con-sidering establishment of branch stove

Mo., St. Louis-Plows.-Swanson-St. Louis Plow Co. incorporated with \$175,000 capital stock by G. H. Vineyard, H. S. Swanson, William Kelley and others.

Mo., St. Louis-Woodworking Machinery. Hall & Brown Woodworking Machine Co., Charles S. Brown, president, increased capi-tal stock from \$200,000 to \$250,000; purchased Yerkes & Finan Woodworking Machine Co. and will continue plant at 9th and Dock Sts.
Tex., Lalling.—Blacksmith Shop.—J. W. Mc-Gaffney will erect blacksmith shop.

Va., Danville — Stores. — Danville Plow Works, R. C. Sides, proprietor, contemplates manufacture of stoves. (See "Machinery Wanted "

GAS AND OIL DEVELOPMENTS

Okla., Altus.—Altus Oil & Gas Co. incorporated with \$30,000 capital stock by J. Ben Russell, H. T. Kimball and Grant Corbin.

Okla., Hugo.-Great Southern Oil & Gas frigerating plant; contract for machinery Co. Incorporated with \$30,000 capital stock by J. A. Trice, B. F. Robbins, T. M. Walton and E. N. Trice.

Okla., Nowata.—King-Electra Oil Co. incorporated with \$40,000 capital stock by R. L. Steiner, W. A. Chase and W. A. Sipes.

Steiner, W. A. Chase and W. A. Sipes.

Tex., Corsicana.—Magnolia Petroleum Co.,
Galveston, Tex., is beginning construction
of proposed pipe line from Corsicana to
Beaumont, Tex.; about 225 miles; will use
eight-inch wrought-iron pipe; D. C. Stewart
in charge of construction; number of stations to be built not decided.

W. Va., Charleston.—Eureka Pipe Line Co.,
S. R. Ball, secretary, applied to Kanawha

S. R. Ball, secretary, applied to Kanawha County Commissioners for 59-year franchise to lay pipe lines for conveying gas, water

W. Va., Buckhannon.—Lotta Lee Oil & Gas Co. Incorporated with \$25,000 capital stock by G. M. Fleming, W. H. Fisher, C. M. Tal-bott, H. R. Clark and C. C. Higginbotham.

ICE AND COLD-STORAGE PLANTS

Ala., Jackson.—Bigbee Ice & Development Co. will install 10-ton absorption lee ma-chine; contract awarded.

Ala., Perdido Beach.-George C. Randolph will install ice plant recently noted; 10 tons of ice per 24 hours capacity; will open machinery bids February 1; has 30x75-foot building. (See "Machinery Wanted.")

Ga., Albany.-City is considering erection of ice plant. Address The Mayor.

Ga., Dahlonega.-Craig R. Arnold is pro-

awarded.

Mo., Mokane.-C. E. Mosley will establish

Mo., De Soto.—Lucas Duffner and associ-ates purchased Mississippi Valley Dairy & Artesian Ice Co.'s ice and ice-cream plant; will operate as De Soto Dairy, Ice & Fuel Co.; enlarge ice plant from daily capacity of

Tenn., Mount Pleasant, -- Mount Pleasant Ice & Bottling Co. organized with \$10,000 capital stock by J. E. Anderson and others; will establish ice plant. (See "Miscellaneous Fac-

Tenn., Nashville.—Meadors, Vaughn & Hal-loran will crect addition to ice plant at Fifth Ave. and Demonbreun St.; Increase daily ca-pacity 59 tons, Increasing to 115 tons of ice in 24 hours; cost \$40,000.

24 hours; cost \$40,000.

Tenn. Nashville.—Southern Ice Co. organized with J. H. Howe (president of Union Trust Co.) president and V. I. Witherspoon treasurer; will operate plants in Nashville, Atlanta, Augusta, Jacksonville and other cities; daily output, 1500 tons ice; storage capacity, 2,000,000 cubic feet, of which 1,000,000 is in Nashville; has begun enlargement of Howe Ice Co. plant to increase daily output more than 1500 tons. (Recently reported incorporated with \$5,000,000 capital stock, etc.)

Tenn., Paris.—Paris Coal & Ice Co. will install ice and refrigerating plant; cost \$15,000; drill 400-foot well to supply water.

E. T. Collins, E. Peloubet, J. W. Blackwood and Charles Nelmeyer.

and Charles Neimeyer.

Ark., Dunnington.—Meadow Lake Farms
Co. incorporated with \$100,000 capital stock;
II. W. Westcott, president; D. A. Yancey,
vice-president, secretary and treasurer.

Fla., Miami,-Broadmoor Company, Fred-Fla., Miami.—Broadmoor Company, Frederick H. Rand, secretary (recently reported incorporated with \$5000 capital stock), will develop 35 acres of land located on Bay Biscayne; improvements will include building of streets, sidewalks and curbs, installation of streets, sidewaks and curvs, installation of sewer and water systems; cost \$25,000; Crab-tree & Zoll, Miami, engineers in charge; Plus R. Levi, Charleston, W. Va., has selling agency. (See "Machinery Wanted.")

agency. (see "Machinery Wanted.")

Fla., Tampa.—Mutual Development Co. incorporated with \$25,000 capital stock by G. F.
Altman, R. J. Burnett, Henry W. Johnson, J.
L. Branch, LeRoy Cotter and others.

L. Branch, LeRoy Cotter and others.

Ga., Augusta.—Wheeler Helghts Co. organized with initial capital stock of \$100,000 to develop suburban residential park; lots will vary from one to five acres; planned to convert McRae's Creek in center of property into lake covering about 75 acres; automobile and bridle path will surround lake; 60-acre park; roads and streets intersecting entire property; automobile and golf club and 18-hole golf course; water-works and sewerage system; fireproof hotel, probably of brick and concrete construction. Address company, care of Georgia Railroad Bank.

Ga., Macon.—W. B. Sparks is interested in

company, care of Georgia Railrond Bank.
Ga., Macon.—W. B. Sparks is interested in organization of company to develop 700 acres as suburb; will issue \$250,000 of bonds and same amount of stock; \$30,000 of bonds for construction of sanitary sewers to river, building golf links, streets and sidewalks and improving parks; \$120,000 for erecting hotel and country club, \$40,000 for building railway and \$20,000 for purchase of four cars.

Ky., Salyersville.—East Kentucky Develop-ment Co. incorporated with \$5100 capital stock by C. D. Sublett, M. F. Patrick and D. D. Sublett.

Ky., Lexington.—C. K. G. Billings, 54 Wall St., New York (recently noted associated with others in land purchase), states he has no land in Kentucky and is not contemplating purchase of any.

plating purchase of any.

Lao., Shreveport.—Louisiana Exploitation
Association purchased Trilby Plantation,
comprising 1400 acres, three miles from
Shreveport; will divide into small farms and
sell to Northern farmers; also planned to
purchase other land, colonize and cultivate
for farming; W. A. Jones and Hans Peterson
represent association in Shreveport.

La Shreveport—Louisians Exploitation

La., Shreveport.—Louisiana Exploitation Association purchased plantation in Red River Valley and will subdivide into farming tracts.

tracts.

La., Abbeville,—Broussard Realty Co. organized with \$120,000 capital stock; L. O. Broussard, president; William Cade, vice-president; O. A. Broussard, treasurer; J. O. Broussard, secretary; will develop Magnolia Plantation.

Plantation.

La., New Orleans.—Fairview Land Co. Incorporated with \$100,000 capital stock; Julius F. Funk, president; J. N. Holcomb, vice-president; H. L. Favrot, secretary-treasurer.

Md., Baltimore. — Withelm L'Allemand, Singer Ave., Denmore Park, purchased remaining portion of Oakfields, including residence and number of outbuildings; property comprises 21½ acres, having frontage of 234 feet on Granada Ave. and depth of 951 feet on Forest Ave.

Md., Baltimore. - Maryland Development Co. incorporated with \$1000 capital stock by Clarence W. Bosley (6 E. Lexington St.), Robert Kirwood and George M. Johnson.

Mo., Huntersville.—Norman Land & Manufacturing Co. incorporated with \$20,000 capital stock by W. W. Norman and J. R. Kinder.

Okla., Okmulgee.—City defeated bond issue for park purposes. (Recently noted.)

Okla., Blxby.—Private Townsite Co. incorporated with \$10,000 capital stock by W. E., C. R. and W. L. Provett.

S. C., Central.—Cottage Industrial Associa-tion incorporated with \$2500 capital stock by L. G. Clayton and others. (See "Canning and Packing Plants.")

S. C., Columbia. — Carolina-Georgia Land Co. incorporated with \$8000 capital stock by H. J. Gregg, E. J. Best and E. C. Bernard.

S. C., Landrum. — Chocolate Land Co., Union, S. C., will develop 1209 acres of land in Spartanburg county; improvements to in-clude erection of farmhouses, barns, etc.; Charles A. Jefferles, president; H. L. Spears, manager. (Recently reported incorporated with \$30,000 capital stock at Union, S. C.)

Mo., Mountain Grove.—Ozark Cold-Storage
Co. will install 40-ton high-pressure side and
15-ton freezing and distilling system in re
LAND DEVELOPMENTS

Tex., Artesia Wells.—La Salle Land & Fig
Co., Box 1011, San Antonio, Tex. (recently incorporated with \$75,000 capital stock by reported incorporated with \$10,000 capital

moting organization of company to establish

Daily Bulletin.

ing medium.

ice plant. Ga., Elberton.—Atlantic Ice & Conl Cor-poration, E. E. Eagan, general manager, will erect 30-ton ice plant; operation by next sea-son; machinery purchased. (Recently noted.)

Ky., Cadiz.-Alexander Bros. will erect eight-ton ice plant.

Ky., Midway.—Midway Ice & Supply Co. organized by John A. Steele, H. L. Martiu, Sr., W. E. Simms and others; will crect 10ton ice plant and 5-ton refrigerator plant.

Md., Baltimore.—American Ice Co., 309-19 Calvert Bldg., awarded contract to John K. McIver, 309 Wilson Bldg., Baltimore, to erect addition to plant on Franklin St. near Pulaski St.; one story; brick.

Miss., Columbus.—Columbus Ice & Bottling Works will install 25-ton refrigerating ma-chine; contract awarded; Samuel Kaye, proprietor.

Miss., Mound Bayou.-Mound Bayou Ice Coal Co. incorporated with \$25,000 capital stock by F. D. Morris and S. H. Harris; establish 10-ton ice plant; contract for machinery awarded.

Mo., Columbia.—Hetzler Bros. will erect additional cold-storage house and icemaking plant; R. M. McCaddish Engineering Co., Kansas City, Mo., in charge of plans and construction. construction.

Mo., Kansas City.-Franklin Ice-Cream Co. will install ice-tank colls, water tank, 35-ton ammonia condenser, etc., in ice plant; ma-chinery contract awarded.

Tex., Corpus Christi.—O. N. Ponce, representing Wichita Falls (Tex.) syndicate, is negotiating for site for ice and cold-storage plant; proposes to incorporate company with \$100,000 capital stock.

Tex., Dallas .- Armour & Co. (main offices, Chicago, III.) will erect two or three-story building to be equipped as refrigerating plant; estimated cost, \$50,000.

Tex., Dallas.—A. A. Jackson will erect cold-storage and business building.

Tex., Dallas.—Texas Ice & Cold Storage Co. incorporaed with \$75,000 capital stock by D. M. Jones, J. D. Hay and H. L. Bromberg.

Tex., Donna.—B. H. Hooks is interested in organization of company to establish combined ice plant, cottonseed-oil mill and electric-light plant.

Va., Richmond.—Reliable Ice & Ice-Cream Co. incorporated with \$50,000 capital stock; Nathan Bersth, president. (See "Miscella-neous Factories.")

IRON AND STEEL PLANTS

Tenn., Nashville—Iron and Steel Plant.—W.
J. Miles, Jr., of Ohio, is reported as confer-ring with Nashville Industrial Bureau rela-tive to establishing iron and steel plant to furnish materials for dental tool works wned by Mr. Miles.

W. Va., Chester—Sheet and Tinplate.— American Sheet & Tinplate Co. will enlarge plant; add three-sheet mill and change part of present mill from tin to sheet mill.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

stock), will develop 187 acres; 50 acres in cultivation; sell planted and irrigated fig lands; no equipment needed; R. C. Maxwell, president; G. B. Harshbarger, vice-president; B. H. McMinn, secretary-treasurer.

Tex., Rockport.—Gulf Coast Immigration Co., A. L. Matlock, president, Rockport, and Bedell Bidg., San Antonio, Tex. (organized recently), is dividing 7000 acres in Rockport and vicinity into homest-ad lots and farming tracts; has additional 950 acres residence tracts, etc.; J. I. Ellison, general sales manager.

Tex., San Benito.—San Benito Land Corporation incorporated with \$10,000 capital stock by A. C. Swanson, E. F. Rawson and J. A. Hollingsworth

Va., Lynchburg.—Dewitt Land Corporation incorporated with \$25,000 capital stock; B. B. Adams, president; Bessie Dew McCarthy, vice-president; Clinton Dewitt secretarytreasurer; will develop residence building

Va., Martinsville.—T. G. Burch and others purchased 210 acres for \$21,000; propose to subdivide and develop, probably for residen tial purposes.

Va., Richmond. — Richmond, Claremont & Norfolk Development Corporation incorporated with \$100,000 capital stock; Julian W. Tyler, president, Richmond; H. J. Arrington, vice-president, Claremont, Va.; William M. Miller, secretary-treasurer, Richmond.

LUMBER MANUFACTURING

Ala., Trimble, R. F. D. No. 1 from Cullman. Trimble & Daniel are rebuilding saw and planing mill, cotton gin, flour and grist mill; 30x100 feet; machinery to include grist, saw and planing mill and gluning outfit. (Recently reported burned.)

Ark., Arkansas City.—Grayling Lumber Co., P. S. McLurg, secretary, Monroc, La., will build mill; reported cost, \$75,000 to \$100,000.

Ark., Jonesboro. — Referring to reported land sale, Barney & Hines, Inc., of Memphis, Tenn., wire to Manufacturers Record as follows: "Deal was 12,642 acres timber land, in Poinsett and Craighead counties, at \$20 per acre; recently bought by Barney & Hines from Stearns Salt & Lumber Co., Ludington, Mich., and sold to Arkansas Real Estaty Trust Co., Belleville, Ill.; syndicate organized to take over tract, Barney & Hines retaining an interest, and will operate at once, selling timber in log to Memphis mills and colonizing land later."

Ark., Shawmut.—Shawmut Lumber Co. incorporated with \$50,000 capital stock; J. W. construct 2,000,000 yards levee work; will sublet 1,500,000 yards.

Fla., Palatka.-Wilson Cypress Co. will a build mill recently burned.

La., Baton Rouge. — Frank B. Williams, New Orleans, La., purchased timber on two tracts of land and will, it is reported, erect

La., Roseland.—L. J. Patenotte purchased 10,000,000 feet pine and hardwood timber and proposes to build two sawmills of 20,000 feet canacity each.

La., Holly Ridge (not a postoffice).—E. B. Norman & Co., Shelby and Fulton Sts., Lou-Isville, Ky. (recently noted to develop 28,000 acres of timber land), will expend \$50,000 to erect double-band sawmill and install machinery; construction under company's direction; no bids; machinery and equipment purchased.

Md., Baltimore.—Sloan Lumber Co. Incorporated with \$10,000 capital stock by Fisher Sloan (23 E. Eager St.), Frank Gosnell and George H. Clarke.

Miss., Brookhaven.—Union Lumber Co. in corporated with \$10,000 capital stock by D M. Simpson, W. B. Bonds, Jr., and others.

Miss., Hattlesburg.—M. J. Epley Lumber Co. incorporated with \$10,000 capital stock by M. J. Epley, C. L. Quinn and J. D. Craft.

N. C., Asheville.—Asheville Timber Co. incorporated with \$1,090,000 capital stock by S. Montgomery Smith (American National Bank Bidg.), Henry B. Stevens and John B. Anderson; has options on over 250,000 acres spruce timber land; when land purchases are completed will increase capital stock to \$4,500,000 and issue \$5,000,000 bonds; plans to build sawmills with dally capacity 500,000 feet lumber, stave mills, pulp mill, tannic-acid plant, etc.; utilize mill waste at central power plant generating electricity;

central power plant generating
all buildings of concrete.
Tenn., Memphis.—Northern Hardwood Co.
Incorporated with \$5000 capital stock by A.
B. Knipmeyer, Guy P. Long, Herbert Gormorway, Rufus B. Lacy and Will D. Muse.

Tex., Marshall.—Taylor-Turney Lumber Co. incorporated with \$20,000 capital stock by H. H. Taylor, M. T. Turney and E. S. Fry. S. C., Columbia.—Carolina Lumber Co., corner Devine and Main Sts., has organized with F. L. Outlaw, president and treasurer; C. J. Cook, secretary; will erect building; ordinary construction; bids opened; not ready to purchase machinery. (Recently reported incorporated with \$5000 capital stock.)

Tenn., Nashville. — Althauser-Webster-Weaver Lumber Co. Incorporated with \$50,000 capital stock by W. E. Althauser, William Althauser, J. A. Althauser, Charles Webster and D. Weaver.

Tex., Aldridge. — Aldridge Lumber Co. awarded contract to C. H. Williams, Houston, Tex., to erect sawmill to replace burned plant; contract for machinery also awarded; amount of contracts about \$40,000. (Previously mentioned.)

Va., Arcadia.—Virginia Lumber & Extract Co. chartered with \$450,000 capital stock by E. W. Mulligan of Wilkesbarre, Pa., and others. Mr. Mulligan wires Manufacturers Record: "Have taken over O. D. McHenry Lumber Co. under lease and option of purchase; capacity, 50,000 feet daily."

Va., Staunton.—Valley Tie & Lumber Co, incorporated with \$150,000 capital stock; W. M. Mercereau, president; W. K. Mercereau, vice-president; Lynn A. Beck, secretary-treasures.

W. Va., Randolph County.—Robert Whitmer of Philadelphia, Pa., is reported to have purchased 10,000 acres of timber land (mineral rights reserved) at \$600,000.

METAL-WORKING PLANTS

Md., Baltimore—Cans.—John Boyle Company, John V. Murphy, secretary-treasurer, Wolfe and Thames Sts., awarded contract to John J. Moyland, 117 Center St., Baltimore, to crect can factory; four stories; brick, with stone trimmlings; 44x192 feet; fireproof; siag roof; cost about \$20,000; plans by M. J. Coleman of Baltimore.

Md., Cumberland — Tin. — N. & G. Taylor Company, Mariner and Merchant Bldg., Philadelphia, Pa., awarded contracts to erect finishing plant at tin mills and warehouse for storage of blackplate; capacity of laboratory will be doubled and new electric generating set is being installed; anticipates operation of plant in three or four months. (Recently noted.)

Tex., Fort Worth — Metal Refinishing.— Southern Plating Co., W. E. Russell, general manager, San Antonio, Tex., will establish branch plating plant; secured building to be used at present, but later contemplates erecting structure.

MINING

Ala., Birmingham—Iron.—Alabama Iron & Mining Co. chartered with \$100,000 capital stock; Joseph A. Yates, president; E. J. Bird, vice-president; D. M. Lewis, secretarytreasurer.

Ala., Piedmont — Limestone. — H. Wright Stone Co. organized with \$10,000 capital stock; owns and will develop blue limestone and oolitic limestone deposits; Harry Wright, president and manager.

Fla., Bartow.—Homestead Phosphate Co., E. C. Stuart, secretary, Stuart Bldg., Bartow, Fla., is not ready to announce plans. (Recently noted as changing name from Pebble Phosphate Co. and to increase capital stock to \$1,000,000.)

Ga., Blairsville—Gold.—Coosa Creek Power & Mining Co., John D. Dickson, president, 1113 Candler Bldg., Atlanta, Ga., will develop 1000 acres of gold-bearing land; machinery consists of water-power air compressor, rock drills, etc.; cyanide reduction plant; daily capacity, 50 tons of ore; machinery and equipment purchased; Arthur Pew, Atlanta, engineer in charge. (Recently noted.)

Ga., Elberton—Granite.—Elberton Granite Corporation incorporated by D. Moretteni, P. Bertoni, C. Comoili and V. Rossi; succeeds Elberton Granite Co.; workshop, 50x200 feet, is equipped with air compressor, pneumatic tools, pneumatic surfacer and poishing machines; also operates granite quarry.

Ga., Marietta-Granite.—Peerless Granite Co. Incorporated with \$100,000 capital stock by O. M. Sutton and W. W. Withers; will develop granite quarries near Marietta.

Ky., Bowling Green—Stone.—Bowling Green Stone Co. Incorporated with \$30,000 capital stock by S. L. Pickles, Bowling Green, and Edwin F. Westein, Louisville, Ky.

Ky., Middlesboro.—J. Frank White and others purchased lease and impovements of Valley Creek Coal Co.; lease consists of rights on 800 acres; will organize company and develop.

Md., Laurel.—Feldspar, Mica, etc.—Earth Products Co. incorporated with \$50,000 capital stock; William R. Bartges, president; Franklin W. Day, vice-president; Arthur H. Herbst, secretary-treasurer; George F. Wedeman, manager; will develop property containing feldspar, mica and flint; no machinery needed at present. (Recently noted under "Miscellaneous Enterprises.")

Mo., Joplin-Lead and Zinc.—New Dividend Mining Co. incorporated with \$4800 capital stock by E. C. Dunmeyer, E. H. Reseur, S. A. Smith and others.

Mo., Joplin-Lead and Zinc.-James Thur man and associates contemplate erecting concentrating plant.

Mo., Joplin.—Western Mining Co. Incorporated with \$50,000 capital stock by W. E. West, B. T. Becker, B. F. Dye, all of Joplin, and Fred E. Yurner, Muskogee, Okla.

S. C., Eagle Rock—Granite.—The Granite Co. incorporated with \$100,000 capital stock; W. A. Cooper, president; Joseph G. Brown, vice-president; E. B. Crow, treasurer; John G. Allen, secretary.

Tex., Hutchins—Sand and Gravel.—Hutchins Sand & Gravel Co. Incorporated with \$20,000 capital stock by R. B. Nall, E. M. Mulkey, C. B. Boss and others.

W. Va., Charleston—Mica and Clay.—Baird Mica & Clay Co. Incorporated with \$10,000 capital stock by W. E. R. Byrne, E. A. Reid, J. N. Mahan, B. Dyer and Morgan Owen.

MISCELLANEOUS CONSTRUCTION

Ark., Texarkana—Levee.—Lowrance Bros. & Leonard, Memphis, Tenn., have contract to Antonio, to erect reinforced concrete building; cost \$18,500; plans by Alfred Giles Company, 114 Houston St., San Antonio.

Md., Baltimore — Marine Rafiway.—Oliver Reeder & Sons, foot of Covington St., awarded contract to H. I. Crandall & Son Company, Boston, Mass., to install marine railway; capacity 450 tons.

Okla., Davis—Dams.—Davis, Turner Falls & Southwestern Railroad, C. C. Ricker, secretary, will, it is reported, construct two or more concrete dams across Honey Creek and stock lakes with game fish.

Tenn., Jellico-Canal.—Jellico Canal Co. in creased capital stock from \$25,000 to \$3),000

Tex., Dallas—Lock and Dam.—Thomas H. Jackson, United States engineer, is preparing plans for lock and dam No. 7, about 47 mlles below Dallas in Trinity River; expected plans will also soon be prepared for lock and dam No. 5; plans for lock and dam at Hurricane Shoals (previously mentioned) call for 25-foot lift, and have been forwarded to Washington for approval; this dam will be built by day labor under Government direction.

Tex., Waco—Dam.—Government lock and dam No. 8, near Waco, Tex., will cost about \$250,000; concrete lock; chanoine wicket dam; lock 140x50 feet; dam 16 feet high; no bids; work to be done by Government by hired labor; Earl I. Brown, Major, Corps of Engineers, Galveston, Tex. (Recently noted.)

Va., Lambert's Point—Coal Pler.—Norfolk & Western Railway Co. contemplates building coal pier; steel construction. Company's president, L. E. Johnson of Roanoke, Va., wires Manufacturers Record: "Plans not sufficiently prepared to give out any Information."

Va., Newport News—Steel Pier. — Chesapeake & Ohio Railroad Co., F. I. Cabell, chief engineer, Richmond, Va., will, it is reported, construct steel coal pier.

Va., Richmond — Retaining Walls. — City will construct concrete retaining walls along proposed new line of Lester St., adjacent to Ash St.; bids received until December 18; Charles E. Bolling, City Engineer. (See "Machinery Wanted.")

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Crematory.—City contemplates appropriation of \$4500 for erection of first crematory; reported that Waiter Kirkpatrick, Jackson, Miss., will superintend construction and Frank H. Gafford be contractor for construction work; Maury Nichelson, City Engineer. (City previously reported as considering \$300,000 bond issue for crematory, etc.)

Ala., Camden—Hardware.—People's Hardware Co. incorporated with \$10,000 capital stock by D. S. Hitchett, J. J. Higdon, J. A. Fuller and J. E. Fuller.

Ala., Mobile—Lithographing and Engraving.—Aynsley Lithographing & Engraving Co. lucorporated with \$10,000 capital stock; Joseph J. Aynsley, president and general manager; W. D. Reynolds, secretary-treasurer.

Ala., Mobile — Rendering and Reducing Plant.—Edward Zeller has contracted with city for disposal of dead animals, and will erect rendering and reducing plant.

Ala., Montgomery-Printing.-Brown Print-

ing Co., J. H. Crenshaw, president, will erret printing plant; purchased two lots, one 50x110 feet and other 50x100 feet.

Ark., Reyno—Construction.—Cherokee Bay Construction Co. Incorporated with \$50,000 capital stock to construct and equip electric and steam railroads.

Ark., Wampoo—Supplies.—Wampoo Suppl Co. Incorporated with \$5000 capital stock M. L. Leach, president; R. C. Chism, vice president; Joseph F. Smith, secretary; M L. Leach, treasurer.

Fla., Jacksonville — Turpentine Properties, etc.—Lewis-Powell Exchange Co., W. C. Poweil, president, main office address, Jacksonville, will operate and deal in turpentine properties and timbered lands, etc. (Recently noted incorporated with \$500,000 capital stock.)

La., New Orleans-Optical. — Whittenberg Optical Co. Incorporated with \$10,000 capital stock by James Whittenberg, Joseph Sinai, A. H. Hanemann and T. G. Gessner.

Md., Baltimore—Fertilizer and Fertilizer Materials.—Foreign Products Co. incorporated with \$25,000 capital stock by Charles F. P. Waters (405 Lobe Bidg.), William T. Haydon and Clarence O. Dix.

Md., Baltimore—Building.—Intercity Building & Construction Co. Incorporated with \$2000 capital stock by Gabriel L. Rettallata (3106 Greenmount Ave.), Harry Hechhelmer and J. Frank Fox.

Md., Baltimore—Hardware and Paint.—Maryland Hardware & Paint Co, incorporated with \$1500 capital stock by Harry T. Kellman (217 Courtland St.), Kalman Swangelsky and David Zaietz.

Miss., Vicksburg-Dyeing and Cleaning-Modern (not "Model," as recently stated Cleaners & Dyers incorporated with \$10,00 capital stock; A. S. Fischel, president; X. Conti, vice-president; Jas. Palermo, secretary-treasurer.

Mo., Joplin — Engraving. — Southwestern Missouri Engraving Co. Incorporated with \$5600 capital stock; W. C. Willey, president, Carl Junction, Mo.; S. A. Myers, vice-president; C. W. Fear, secretary; O. F. Woodford, treasurer; Dossa Evans, manager; all of Joplin.

Miss., Laurel — Printing. — Consolidated Printing Co. Incorporated with \$15,000 capital stock by E. G. Harris, Herbert Lampke and others.

Miss., Oxford.—Porter-Sisk Hardware Co. incorporated with \$25,000 capital stock by D. E. Porter, C. E. Sisk and others.

Mo., Kansas City — Construction. — E. L. Winn Construction Co. Incorporated with \$2000 capital stock by E. L. Winn, Mamie B. Winn and George W. Stubbs.

Mo., St. Louis—Lithographing and Engraving.—Chromotype Process Co. incorporated with \$9900 capital stock by Frederick Graf. Joseph Dyer and Oscar E. Duchman.

Okla., Oklahoma City—Printing.—Garland Printing Co. incorporated with \$10,000 capital stock by E. G. Clark, Nell P. Clark and A. A. Meacham.

S. C., Columbia—Oil-distributing Station.— The Texas Company (main offices, Houston, Tex.) will build distributing station to consist of offices, warehouses, sheds and oil tanks; cost \$25,000; P. J. Vosse, special representative.

S. C., Spartanburg—Electrical Contracting. Irwin Electric Co. incorporated with \$10,000 capital stock by W. H. Irwin and K. E. Sherrill.

S. C., Spartanburg—Abattoir.—City will erect abattoir; 36x50 feet; one story; brick: contain three separate apartments; cost \$3000; fertilizer tank erected in connection; contract awarded to Charles Moore. Recently mentioned.)

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S. C., Union — Live-stock.—Johnson-Jones Live-Stock Co. incorporated with \$2000 capital stock by J. W. Johnson, R. A. Jones and W. B. Jones.

Tenn., Memphis — Contractors. — Southern Dolarway Paving Co. incorporated with \$56-660 capital stock by L. W. Johnson, W. M. Timmons, M. Blomquist, R. L. Bertels and S. H. Trezevant.

Tenn., Memphis—Cleaning and Dyeins—Kraus & Co. awarded contract to Forro-Corcrete Construction Co., Cincinnati, O., to erect freproof buildings; 70x122 feet, \$335 feet and 102x42x15 feet; pians by Jones of Memphis; machinery will include boiler, eiectric motor, generator, dyeing and cleaning machinery. (Recently noted.)

Tex., Brownsville—Dredging.—International Dredging Co. incorporated with \$10,000 capital stock by P. G. Burns, Thomas Stargis and Norman E. Randall.

Tex., Georgetown-Laundry.-H. F. Thompson, proprietor Troy Steam Laundry, will

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14, 1911.

with \$50.00

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Properties W. C. Pow s, Jackson turpentine etc. (Re. 500,000 capi

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Tex. Longview - Publishing. - Longvie

Publishing Co. incorporated with \$10,000 cap Ital stock by M. G. Caldwell, C. E. Palmer and Frank McElreath. Tex.. San Antonio—Cleaning and Dyeing.— Tex.. San Antonio—Cleaning and Dyeing.— Tex.. Y. White Company awarded contract to to Simpson Company, Moore Bidg., San dishop, president; W. W. Wilson, vice-presi-ent; H. C. Anderson, treasurer.

dent: II. C. Anderson, treasurer.

Va., Hot Springs—Laundry.—Virginia Bot Springs Co, has plans by H. C. Allen, Hot Springs, for two-story laundry building.

Va., Hot Springs—Dairy.—Virginia Hot Springs Co, has plans by H. C. Allen, Hot Springs Co, has plans by H. C. Allen, Hot Springs, for dairy.

Va., Lynchburg — Abattoir. — Lynchburg Abattoir Co, incorporated with \$25,000 capital stock: build abattoir on site of 11 acres in Amherst county to include cold-storage plant and arrangements for utilizing and bandling by-products; Richard Blankenship, president; R. D. Martin, vice-president; W. P. Miller, secretary-treasurer.

Va., Shemandoah—Laundry.—M. A. Ashby

Va., Shenandoah-Laundry.-M. A. Ashby will establish steam laundry,—M. A. Ashby will establish steam laundry; contemplates operation by February 1. (See "Machinery Wanted.")

MISCELLANEOUS FACTORIES

Ala., Baldwin County—Turpentine.—J. C. Jowell, Jr., Blackman, Fla., purchased \$75,-m worth of timber lands in Baldwin county, oses to extract turpentine.

Ala., Foley-Brooms.-Otto Zippere mplates building broom factory and ware

Ala. Gadsden-Harness Plant and Tannery Jones Bros. Harness & Tannery Co. incc rated with \$10,000 capital stock by C. Jones, J. F. Jones and C. R. Eastman.

Ala. Gadsden-Tannery.—Jones Bros. Tanning & Harness Co. incorporated with \$10,000 capital stock; acquired J. R. Jones' tannery

capital stock; acquired J. R. Jones tannery on 1st St.; will enlarge and operate. Ala. Selma — Suspenders. — Tillman Sus-pended Co. Incorporated; will establish fac-tory; D. E. Tillman is president.

Ark., Harrison—Saddlery.—Frew Saddlery Co. Incorporated with \$25,000 capital stock; James P. Frew, president; Charles M. Frew, vice-president; George C. Frew, secretary;

J. B. Barker, treasurer. J. B. Barker, treasurer.

Fla., Jacksonville—Bags.—Southern States
Bag Co., W. H. Brown, president, 9 Jefferson
St., will erect building; 80x180 feet; ordinary
construction: cost \$10,000; operation by electricity; machinery purchased; daily capacliy, 25,000 burlap bags. (Recently reported
incorporated with \$100,000 capital stock.)

Fla., Orlando-Ornamental Leaded Shades and Chandeliers.—E. S. Pierce and Horace Lindsey contemplate establishing plant to manufacture ornamental leaded shades and mission oak chandeliers.

Ga., Cordele-Gas.-City granted franchise to W. A. Dodson of Americus and Bradford Fralley. Philadelphia, Pa., for construction of gas plant; about two miles of mains; estimated cost \$75,000. (Recently mentioned.)

Ky., Harlan...-Harlan Bottling Co. Incor-porated with \$5000 capital stock by Ira Fields, Jr., Hiram Fields, Jr., and A. M. Clark.

Ky., Newport-Nut and Bolt Locks.-Universal Nut & Bolt Lock Co, incorporated with \$54,000 capital stock by George B. Martin, E. F. Brock and E. Elston.

Ky., Newport—Nuts and Bolts.—Universal Nut & Bolt Lock Co. incorporated with \$50, 600 capital stock by George B. Martin, E. F. Brock and E. Elston.

Brock and E. Elston.

La., Fullerton—Ethyl Alcohol, etc.—Standard Alcohol Co., 185 Broadway, New York (Hirsch Syndicate of London, England, interested), is proceeding with construction of terested), is proceeding with construction of previously-noted plant to manufacture alcohol and other products from sawmill refuse; Ewen-Tomlinson process. Geo. H. Tomlinson, 525 Rookery Bldg., Chicago, Ill., states contracts are now being placed for special coulpment; that total cost of plant will be about \$400,000, and operation is contemplated for May; capacity, over 5000 gallons alcohol daily; sawmill refuse from plant of Gulf Lumber Co. to be utilized; John M. Ewen Company of Chicago, engineer and builder in charge of construction of new plant; reinforced concrete buildings.

La. New Orleans—Rice.—Union Rice Mill-

La. New Orleans-Rice.—Union Rice Milling Co. incorporated with \$25,000 capital stock by James I. Lange, B. Meyer and Geo. M. Appell.

La., New Orleans-Rice.-Louislana State Id., New Orieans—Rice,—Louisinaa State Rice Milling Co., Frank Godchaux, president, Abbeville, La., purchased plant of Louislana Molasses Co. for \$75,000 to \$100,000 and will use site and probably buildings for ware-houses; will, it is reported, later install rice

milling machinery. (Company previously reported incorporated with \$9,500,000 capital rect stone building for laundry; cost about

stock.)

La., New Orleans—Cigars.—The Hernsheim
Company, Harry W. Cobb, president, leased
two-story building, 97x125 feet, at Julia and
Magazine Sts.; will remodel and equip for
manufacturing cigars and cigarettes; install
sprinkler system and steam heat.

sprinkler system and steam heat.

Md., Baltimore—Clothing.— Henry Sonneborn & Co., Paca and Pratt Sts., will enlarge
plant; secured brick stable in rear; will
erect additional brick story and rebuild
walls; contractors estimating include Consolidated Engineering Co., 101 Emerson Bidg.,
and John K. McIver, 7 Clay St., both of Baltimese.

Md., Baltimore.—E. H. Josse yn, 704 N. Durham St., will erect addition to candy factory; addition to consist of two sectiors, one 52x75 feet and other 23x57 feet; Callis & Callis, 2000 St. Paul St., Baltimore, will prepare plans; contract for construction awarded. warded.

Md., Westernport — Briquettes. — Phoenix Mining Co. will install additional seven-ton press in briquette plant; five-ton press new in operation; Robert Devillers, foot of Court St., Brooklyn, N. Y., has machinery contract.

Mo., Huntersville.—Norman Land & Manufacturing Co. Incorporated with \$20,000 capital stock by W. W. Norman and J. R. Kinder.

Mo., Joplin - Novelties. - Joplin Novelty Manufacturing Co. organized with \$2000 capi-tal stock by Ira Bell, John Odell and Charles L. Moon.

Mo., Joplin-Boxboard.—Illinois Boxboar Co., Lewis H. Wood, president, Pekin, Ill s considering establishment of plant.

Mo., Kansas City—Fenceposts.—Everlasting Fencepost Co. Incorporated with \$10,000 capital stock by J. T. Smith, Edwin L. Miller, F. P. Van Hook and others. Mo., Kansas City - Chemicals. - O Zo No

Chemical Co. incorporated with \$50,000 capital stock by Edward T. Dunkeson, Edmund D. Fear and Henry Dunkeson. Mo., St. Louis-Hats.-Bronx Hat Co. in corporated with M. Hartman, president; Henry Lowenstein, secretary; Joseph Fader.

treasurer.

Mo., St. Louis-Creamery.-Blue Valley
Butter Co. incorporated with \$10,000 capital
stock by L. C. Hamilton, St. Joseph, Mo.;
E. P. and R. L. Hickman of Kansas City,
Mo.; Ji M. Walker and C. J. Walker, both
of Chicago, Ill.

Mo., St. Louis—Book Indexes.—Instantaneous Page Finder Co. incorporated with \$10,000 capital stock by Buren Holmes, Charles R. Fife, John S. Willis, William H. Jones and

Julia J. Adams Mo., St. Louis-Hats.-Economy Hat Co. incorporated with \$5000 capital stock by Richard Albert, Moses Solinson and Louis Bauer

Mo., St. Louis—Chemicais.—John T. Milli-ken & Co., John T. Milliken, president, will erect laboratory; four stories; reinforced concrete; 287x160 feet; cost \$100,000.

Mo., St. Louis—Vinegar and Grocers' Sundries.—J. D. Goldman is naving plans prepared by O. J. Wilhelmi of St. Louis for four-story building. A. Braun Manufacturing Co., 6th and Cerre Sts., leased structure and will equip for manufacturing vinegar and grocers' supplies

grocers' supplies. Mo., Sumner—Steel Tires.—Akin Steel Tire & Manufacturing Co. incorporated with \$300,000 capital stock by J. H. Akin, J. D. Stoner, C. M. Hooper and others.

N. C., Elizabeth City-Gas.-Board of Al-N. C., Elizabeth City-Gas.—Board of Aladermen granted franchise to North Carolin Gas Co., James Gamble, treasurer, 15 William St., New York, to build and operate gas plant; will lay not less than eight miles pipe, conductors and conduits.

N. C., Statesville—Gas.—Sydney Kenney, Morris Bidg., Philadelphia, Pa., will con-struct gas plant; 30x50 feet; one story; 20 feet high; concrete and brick; construction in charge of T. E. Frye.

N. C., Louisburg—Mattresses.—Stovall Mat-tress Co. Incorporated with \$5000 capital stock by H. M. Stovall, F. B. McKinne, D. F. McKinne, Malcolm McKinne and K. H. Hill. Okla., Ardmore—Sugar.— Mexico-Oklahoma

Sugar Co. Incorporated with \$30,000 capital stock by Charles W. Rollins, W. S. Wolverton, Paul B. Jones and Charles Von Weise

ton, Paul B. Jones and Charles Von Weise Okla., Tulsa—Washing Machines.—Imperial Manufacturing Co. will establish plant at Sand Springs for manufacturing washing machines for laundries, asylums, etc., and smaller machines for domestic use; machines operated by Individual electric motors and by hand; machinery ordered, including lathes, band saws, jig saws, planes, motors, riveters and stamping machines.

Tenn. Chattanogra—Aeroplane — Carl L.

Tenn., Chattanooga - Aeroplane, - Carl L.

Mourfield contemplates establishing aeroplane plant.

Tenn., Jackson-Gas.-Citizens' Gas Light Co. will install additional equipment to double capacity of plant; will also extend several gas mains throughout city; contract for machinery awarded; R. M. Hess, general

Tenn., Knoxville — Aluminum.— Aluminum Company of America, Pittsburgh, Pa., and 39 John St., New York, is reported as plan-ning construction of big aluminum manu-factory; electric drive. (See "Water-power

Tenn., Knoxville—Trunks.—Southern Trunk Co., H. L. Ingles, president, will open bids in 90 days to rebuild factory; mill construc-tion; cost \$300. (Recently reported burned.)

Tenn., Mount Pleasant-Bottling. - Mount Pleasant Ice & Bottling Co. organized with \$10,000 capital stock by J. E. Anderson, James H. Ward, W. D. Cooper, E. G. Kittrell and others; will acquire Mr. Pleasant Bottling Works, crect addition and continue operation; will also build ice plant.

Tenn., Nashville-Dairy.-Union Ice-Crean Assavine—Daty,—Chioi nee-Cream & Sanitary Milk Co. incorporated with \$60,000 capital stock; will acquire Union Ice-Cream Co. and continue plant, having capacity of 3000 gallons of ice-cream daily and ice and 2000 gallons of ice-cream daily and ice and cold-storage machinery; erect dairy with capacity of 5000 gallons milk per day in rear of ice-cream plant; milk will be held in porcelain vessels; building to be almost of glass; prism lights; walls and floors lined with white the and porcelain; W. M. Sidebottom, president and general manager; W. E. Drake, vice-president; F. C. Dorider, secretary.

Tenn., Rogersville.—Allen Manufacturing Co. incorporated with \$15,000 capital stock by E. R. Allen, Worth B. Quillen, S. L. Pen-nington, C. C. Southern and R. C. Coleman.

Tex., Brownsville — Sugar. — Ohio-Texas bugar Co. will be reorganized as Buena Vista sugar Co. with \$400,000 capital stock; J. W. Blower, receiver.

Tex., Orange-Candy.-E. V. Folsom, Box 535, contemplates promoting establishment of candy factory. (See "Machinery Wazted.")

Va., Hampton - Plaster Board. - Hercules Plaster Board Co. incorporated with \$300,000 capital stock; William M. Alberti, presi-dent; William Wilson, Jr., vice-president; James M. Wright, secretary-treasurer, all of New York.

Va., Lynchburg—Drugs.—Wheeler Chemical
Co. incorporated with \$5000 capital stock; J.
R. Wheeler, president and treasurer; J. B.
Ogden, vice-president; H. A. Payne, secre-

Va., Richmond—Ice Cream.—Reliable Ice & Ice Cream Co. Incorporated with \$50,000 capital stock to manufacture lee cream and ice; Nathan Bersth, president; Hyman Silbert, secretary-treasurer; Louis Hertzberg, vice-president and general manager.

Va., Richmond — Wheels. — American Adjustable Wheel Co. incorporated with \$100,000 capital stock; R. H. Bruce, president, Chester, Va.; Clarence Vaden, vice-president; J. H. Pinner, treasurer; J. C. Davis, secretary, all of Richmond. W. Va., Huntington—Glass Mirrors.—L. A. Wolcott contemplates establishment of factory to manufacture plate-glass mirrors. (See "Machinery Wanted.")

W. Va., Dunbar - Glass. - Dunbar Flint Glass Co. incorporated with \$25,000 capital stock by Robert G. Libler, John Hillenbrand, Frank Rye, Henry Wieneumyer and others, all of Charleston, W. Va.

W. Va., Wheeling—Heat and Light Patents.
Rector West Virginia Heat & Light Co. incorporated with \$75,000 capital stock by A. L.
Petty, Thomas N. Gealey, H. W. Kisdadden,
M. W. Bishop and M. M. Smith, a'l of Pitts-

W. Va., Wheeling.—Tools.—Superior Tool Co. incorporated with \$50,000 capital stock by Ed. W. Westwood, H. E. Rennard, Joseph H. Reass, Jr., E. F. Schofield and William E. Krupp.

W. Va., Wheeling-Paper Dishes.-No-Leak w. va., Wheeling—Paper Dishes.—No-Lenk Paper Dish Co. Incorporated with \$50,000 capital stock by Andrew Edminston, John Riley, J. C. Forinash, J. H. Edwards and Lewis Bennett, all of Weston, W. Va.

W. Va., Wheeling—Clothing.—Hohman & Duvall Company incorporated with \$25,000 capital stock by Robert A. Hohman, G. W. Duvall, A. E. Maury, John Hohman and E. W. Vn., Wheeling-Musical Instruments -

Davos, Burkham & Tyler Company incorporated with \$50,000 capital stock by Ralph Longenecker, A. T. C. Gordon, Alexander Black, Miles H. England and James I. Marsh, all of Pittsburgh, Pa.

MOTORS AND GARAGES

Fla., Tampa.—Ernest Kreher, president of Tampa Foundry & Machine Co., is having plans prepared for garage; probably two stories will be erected first with foundation to support three additional stories to be

Ky., Winchester.-E. L. King awarded con-tract to remodel 55x229-foot skating rink for garage. (Recently noted.)

Miss., Hattiesburg.—Southern Automobile & Machine Co., P. O. Bidg., incorporated with \$50,000 capital stock; R. R. Boykin, manager.

D. Woodside, manager, has ordered machin-ery for repair shop and garage; has build-ing; operation by January 1. (Recently noted.)

N. C., Newbern.-Newbern Motor Co. or-ganized; will repair and deal in automobiles.

S. C., Clio.—Hubbard Motor Car Co. in-corporated with \$3000 capital stock by J. L. Hubbard and Hugh McLaurin.

8. C., Greenville.—R. N. Tannahili will probably erect garage on Brown St.

Tex., Galveston.—Mrs. Cora Gregory and Jesse M. Gibbons will erect transfer build-ing, equipped for storage and repair of au-tomobiles, etc. (See "Miscellaneous Struc-

Tex., Victoria.—Mrs. L. B. Randell, San Antonio, Tex., awarded contract to Bailey Mills Co., Victoria, to erect lodge and garage building. (See Contracts Awarded, "Asso-ciation and Fraternal.")

Va., Roanoke.—Roanoke Motor Car Co. in-corporated with \$25,000 capital stock; Frank Welch, Sr., president; J. E. Shickle, vice-president; Frank Welch, Jr., secretary-treas-

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Fin., Pensacola.—Gulf, Florida & Alabama Railway, George A. Berry, chief engineer, will build terminals, including concrete pier; one section of pier will dock five occan steamers; will also construct 80-mile tele-

ROAD AND STREET WORK

ROAD AND STREET WORK

Ala., Anniston.—Calhoun County Commissioners appropriated \$2000 from road fund of county for 1912 and State \$2000, which, with other appropriations, aggregate \$8000, to be expended in construction of State highway to Alexandria. County Commissioners will receive bids until January 10 for grading, draining and surfacing with either chert or limestone about four miles of road; W. S. Keller, State Highway Engineer. (Recently mentioned. See "Machinery Wanted.")

Ala., Brewton.-Escambia county will drain and shrface with sand clay about nine miles of road; bids received until January 5; W. 8. Keller, State Highway Engineer.

Ala., Dadeville,—Tallapoosa County Com-missioners awarded contract to W. H. Wynn of Dadeville to construct road from Dade-ville to Miller's Bridge, nine miles; cost \$8000 to \$10,000; James R. Hall of Dadeville is en-gineer in charge. (Recently mentioned.)

gineer in charge. (Recently mentioned.)

Ala., Gadsden.—City Council will receive
bids 8 P. M. December 18 for construction
(Imp. order No. 38) of 2295 square yards concrete sidewalk, 50 yards concrete driveway,
2140 linear feet concrete 8-inch curb, 35-inch
gutter; 100 linear feet concrete 5-foot gutter,
six catch basins; 1400 cubic yards grading;
plans, etc., at office of Chas. L. Marsh, City
Engineer. (See "Machinery Wanted.")

Ala., Linden. - Marengo county will not vote on \$150,000 bond issue for road improve-ments. Address County Commissioners. (Recently mentioned.) Ala., Mobile.—City will expend about \$120,000 on paving Spring Hill and Georgia Aves. and Selma and Ann Sts.; date of opening bids not set; probably about January 5; Wright Smith, City Engineer; J. J. McMahon, secretary. (Recently noted.)

Ark., Little Rock .- City will grade, curb, Ark., Little Rock.—City will grade, curb, gutte" and drain and construct sidewalks on W. 28th 8t. from Arch to Wolfe 8t.; bids received until December 20; J. F. Evans, secretary Improvement District No. 190, Room 214, Southern Trust Bidg., Little Rock. (See "Machinery Wanted.")

"Machinery wanted.")

Fig., Jacksonville.—Duval County Commissioners awarded contract to F. M. Le Gate to grade Kings Rd. from Dinsmore to county line and for grading New York Ave. from Yukon to county line; Gail L. Barnard, County Engineer. (Carl for bids lately noted.) noted.)

Fla., Kissimmee.—City awarded contract to Alabama Paving Co., Birmingham, Ala., to

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pave one block on Emmett St., three blocks on Broadway and one block on Dakin Ave.; vitrfied brick; city will vote December 19 on bond issue for grading, curbing and paving streets in addition to those contracted for.

Fla., Kissimmec.—City will vote December 19 on \$25,000 bond issue for street improvements. Address The Mayor. (Recently mentioned.)

Fla., Lakeland.—City contemplates advertising bids for brick paving; C. F. Brush, engineer in charge. (Bond issue of \$60,000 recently noted to be voted December 30.)

Fla., Miami.—Broadmoor Company, Frederlek II. Rand, secretary, will construct sidewalks and streets in connection with development of 35 acres of land on Bay Biscayne. (See "Land Developments.")

Fla., Tallahassee. — City, D. M. Lowry, Mayor, will expend about \$89,000 on recentlynoted paving in business district; vitrified brick; bids to be asked. (Bond issue recently noted.)

Fla., Arcadia.—City will construct two miles of concrete sidewalks; bids received until December 20; Harry C. V. Burton, City Clerk. (See "Machinery Wanted.")

Ky., Louisville.—City will pave wharf from 1st to 2d St. with granite blocks at cost of \$7000; Louisville & Jeffersonville Ferry Coproposes to build concrete walk from 1st and Water Sts. to dock in river at foot of 1st St.; David R. Lymna, City Engineer.

Ky., Mount Sterling.—City will pave with brick Maysville, Locust, Bank, High and part of Main Sts.; Charles H. Petz, Carroll C. Chenault and others appointed Paving Commission.

La., Crowley.—City will appropriate \$10,000 for street crossings; about 10,000 linear feet. Address The Mayor.

Md., Cumberland.—City will not advertise bids for paving of Wineow, Thomas and 2d Sts. until after April 1; A. W. Straub, City Clerk. (Recently noted.)

Miss., Brandon.—Beat No. ? of Rankin county awarded contract to W. H. Thomason, Monticello, Miss., at \$25,000 to construct and improve 65 miles of roads; work includes 75,000 cubic yards of earth, 1000 cubic yards soft rock and 28,000 square yards sand clay surface; J. A. Hammack, engineer, Brandon. (Call for bids lately noted.)

Miss., Magnolia.—City will award contract January 8 for construction of concrete sidewalks; width not less than 50 inches; about 10,000 square yards; cost about \$12,000; Xavier A. Kramer, Magnolia, Miss., is engineer; Joseph Norwood, Mayor. (Recently mentioned.)

Mo., Carthage.—City will construct 7000 square yards asphaltic concrete pavement; blds opened December 11; F. B. Newton, City Engineer.

Mo., Joplin.—City contemplates constructing liquid asphalt pavement on Sergeant Ave., 1st to 10th St.; 13,404 square yards in district; estimated cost, \$25,108.65; Arthur Cooke, City Engineer.

Mo., Joplin.-City will construct curb and gutter on D St. from Main St. to Moffit Ave. under supervision of Arthur Cooke, City Engineer.

N. C., Apex.—City voted \$10,000 bond issue for street improvement and market-house Address The Mayor.

N. C., Sanford.—Lee county will vote January 16 on bond issue for road improvements;
T. N. Campbell, Clerk of Superlor Court.
(Recently noted.)

Okla., Oklahoma City.—City awarded centract to Shelby-Downard Asphalt Co., Ardmore, Okla., to pave eight blocks on 16th St. and Hudson Ave.; about 3000 square yards.

Okla., Tulsa.—City awarded contract to Shelby-Downard Asphalt Co., Ardmore, Okla., to pave 53 blocks of streets with Oklahoma rock asphalt; contract price, \$135,586.46; contract for additional 15 blocks of paving to cost \$47,500 was postponed pending consideration of matters pertaining to building subway, etc.; E. B. Cline, City Auditor. (Recently mentioned.)

Tenn., Binghamton.—City engaged Harry N. Pharr, engineer, Memphis, Tenn., to supervise street paving; \$15,000 bond !ssue authorized for various public improvements; H. B. Everett, chairman commissioners.

Tenn., Gainesboro.—Jackson county voted \$150,000 bond issue for road construction. Address County Commissioners. (Recently mentioned.)

Tex., Anderson.—Precincts Nos. 3, 5 and 6, comprising Road District No. 1, voted \$125,000 for road construction; Hood Boone, County Judge, Grimes county, states further information not available before December 20. (Recently noted.)

Tex., Bonham.-City awarded contract to

Wichita Construction Co., Dallas, Tex., to construct 30 blocks of concrete sidewalks. (Call for bids lately noted.)

Tex., El Paso.—City will pave Arizona St. from Oregon to Austin St. at estimated cost of \$46,881.88, of which city will pay \$7933.49, El Paso Electric Railway Co. \$15,849.25 and property owners \$23,099.15. Address The Mayor.

Tex., Denison.—Alex. W. Acheson, Mayor, states property owners will construct recently-noted one mile of asphalt paving on Gandy St.; will let contract; Julian C. Fields, engineer in charge.

Tex., Fort Davis.—Jeff Davis county defeated \$50,000 bond issue for road construction; James Stewart, County Clerk. (Recently mentioned.)

Tex., Fort Worth.—City will pave Exchange Ave. from Marine Creek to N. Main St., containing about 7000 square yards; bids received until December 12; F. J. Von Zuben, acting City Engineer; W. J. Estes, City Secretary. (See "Machinery Wanted.")

Tex., Pilot Point.—City will pave sidewalks and public square; probably brick material; Jesse D. Mofflit, City Secretary. (Bond issue of \$12,000 recently noted.)

Tex., Victoria.—Road District No 1 of Victoria county will vote December 21 on \$40,000 bond issue for road construction. Address County Commissioners.

Tex., Victoria.—Road District No. 2 of Victoria county will vote December 21 on \$290,000 bond issue for road construction. Address County Commissioners,

Va., Norfolk. — City awarded contract to Perry W. Ruth Company of Norfolk to pave Church St. from Queen to Goff St. with Belgian block and oak wood keys; to include sewer pipe and water pipes; amount available, \$83,520; W. T. Brooke, engineer in charge. (Recently mentioned.)

Va., Petersburg.—City voted \$212,000 bond issue for street, bridge and other improvements. R. D. Budd, City Engineer, may be addressed.

SEWER CONSTRUCTION

Ark., Little Rock.—City will construct sewers in District No. 68; bids received until December 20; E. A. Kingsley, engineer for district. (See "Machinery Wanted.")

Fla., Lakeland.—When bonds are voted city will ask bids for sewer construction; C. F. Brush, engineer in charge; John F. Cox, Mayor. (Bond issue of \$75,000 recently noted to be voted December 30.)

Fla., Miami.—Broadmoor Company, Frederick II. Rand, secretary, will construct sewers in connection with development of 35 acres of land on Bay Biscayne. (See "Land Developments.")

Ga., Savannah.—City voted \$600,000 bond issue to extend and complete house drainage and sewerage system, including necessary extension of water-works system; J. W Howard, City Engineer. (Recently mentioned.)

Md., Laurel.—City will vote before January 1 on \$35,000 bond issue for sewer construction; gravity system to river; engineer in charge, E. H. Howell, Washington, D. C. (Recently mentioned.)

Md., Baltimore.—Calvin W. Hendrick, chief engineer Sewerage Commission, American Bldg., submitted plans and specifications to Sewerage Commission for additional sewer contracts aggregating \$350,000. These will include continuation of high-level intercepter in following streets: Center, from Cathedral to Park Ave.; Park Ave., from Center to Mulberry St.; Mulberry St., from Park Ave. to Greene St.; Greene St., from Mulberry to Saratoga St., and thence to Myrtie Ave. Subsequent contract will provide for continuing sewer into northwestern section of city. Another contract will be for extending sanitary sewers already built in North and Northeast Baltimore to inside of house wall, connecting 3815 houses; third contract will be for building Jones Falls drift catcher; blds will be received until December 20. (See "Machinery Wanted.")

Mo., Kansas City.—Board of Public Works awarded contract at \$5377 for construction of storm sewer in District 221, extending from 39th to 43d Sts., from Warwick Blvd. to Central St.; to William & Samples at \$11,378 for sanitary sewer in District 331, extending from Lindell Ave. to 60th St., and from Belleview to Central St.; also to Williams & Samples at \$5224 for sanitary sewer in District 335, extending from Brookside Blvd. to Broadway, and from 59th to 62d St.; vitrified clay pipe.

N. C., Weaverville.—Weaverville Electric Co. is interested, it is reported, in construction of sewer system. Tenn., Nashville.—City will extend Lick Branch sewer from Pearl St. to Sixteenth Ave.; bids received until December 12; William Southgate, City Engineer.

Tex., Waco.—City will receive bids until January 2 for constructing sanitary sewer system, including 2900 linear feet 15-inch, 12,000 linear feet 12-inch, 10,000 linear feet 10-inch, 6000 linear feet 8-inch vitrified clay sanitary sewer pipe; 108 linear feet 15-inch and 96 linear feet 12-inch cast-iron sewer pipe; also all Ys, Ts, curves, etc.; \$45,000 of bonds issued; P. A. Gorman, commissioner of streets, sewers and public improvements. (See "Machinery Wanted.")

Va., Chase City.—City is considering construction of sewer system and water-works; estimated cost, \$60,000. Address The Mayor.

TELEPHONE SYSTEMS

Fia., Pensacola.—Gulf, Florida & Alabama Railway, George A. Berry, chief engineer, will construct 80-mile telephone system. (See "Railway Shops, Terminals, Roundhouses, etc.")

La., Amite.—Cumberland Telephone & Telegraph Co., Nashville, Tenn., leased Connor Building on East Railroad Ave, and will install telephone exchange; replace plant recently burned at loss of about \$20,000.

Okia., Romulus.—Romulus Rural Telephone Co. (recently reported incorporated by G. W. Polk and others) will construct several miles of rural telephone line; has 20-line switchboard installed. (See "Machinery Wanted.")

Tenn., Hendersonville. — Home Telephone Co. organized; J. E. Johnson, president; J. M. Summers, vice-president; J. H. Stephens, secretary; T. B. Ellis, treasurer.

Tex., Denison.—City voted to grant telephone franchise to Southwestern Telegraph & Telephone Co., Dallas, Tex.

TEXTILE MILLS

Ga., Tallapoosa—Cotton Yarns.—Tallapoosa Mills wfil add 2500 spindles; contract awarded; present equipment is 10,000 ring spindles, etc.

N. C., Asheville — Pinids, etc. — Asheville Cotton Mills will, it is reported, expend \$50, 600 to build dyehouse, improve cottages and make other betterments; has 10, 100-ring spin dles, 450 narrow looms, etc.

W. Va., Keyser-Worsted Yarns.-Patchett Worsted Co. will erect additional building and install machinery to manufacture woolen goods; now has 3000 worsted spindles, dye plant, etc.

WATER-POWER DEVELOPMENTS Ala., Tuscaloosa County. — Birmingham

Mo., St. Louis. — Mississippi River Power Distributing Co. is completing plans for transmission of electricity (60,000 horse-power) from water-power development on Mississippi River at Keokuk, Ia.; power to be delivered to United Rallways Co. and Union Electric Light & Power Co. of St. Louis; contracts awarded for steel towers on concrete bases, 800 feet apart, 75 feet high and carrying six cables; crossarms carrying cables, 20 feet long; rights of way from Keokuk to St. Louis, 167 miles; transmission line begins at Hamilton, Ill., and extends to Quincy, Ill., to Alton, Ill.; cables carried across Mississippi River to Missouri shore and across Missouri River from north to south about six miles below St. Charles, Mo.; towers to carry cables across river, 150 feet high; from this point line will extend to Florisant and into North St. Louis, where transforming station will be built; distance from Florisant to St. Louis about 11 miles; James Campbell is president of St. Louis distributing company, and J. I. Mortimer (president Union Electric Light & Power Co.) is vice-president and secretary.

Tenn., Knoxville.—Judge H. B. Lindsay confirms for Manufacturers Record correctness of reports that Aluminum Company of America (Pittsburgh, Pa., and 99 John St., New York) has secured land and rights on both sides of Little Tennessee River from five miles east of Chilhowee, N. C., to Bushneil, N. C., distance about 40 miles; will build a water-power-electric and aluminum manufacturing plant; construct four dams, possibly five or more, to develop 200,000 horse-power, besides making river navigable from power plant to where it empties into Tennessee River; already invested between \$400,000 and \$500,000 for property, and if its plans are carried out as now contemplated, ultimate investment will be \$12,000,000 to \$15,000,000. Company's purchases include Knoxville Power Co., Tallassee Power Co. and Union Development Co. properties, which are in Georgia. (Previously mentioned.)

WATER-WORKS

Fla., Miami.—Broadmoor Company, Frederick H. Rand, secretary, will construct water-works in connection with development of 35 acres of land on Bay Biscayne. (See "Land Developments.")

Ga., Bronwood.—City awarded contract to J. B. McCrary Company, Atlanta, Ga., at \$9500 to construct water-works; 25 fireplusa connected with six-inch mains; 50,000 callon steel tank; small brick building; gasoline engine, about 12 horse-power; R. J. Glass, Clerk. (Recently mentioned.)

Ga., Cuthbert.—City will arrange for construction of water-works; bond issue sold. Address The Mayor.

Ky., Frankfort.—Frankfort Water Co. will soon invite bids for installation of filter plant; cost \$60,000.

Miss., Edwards.—City will vow sunuary 2 on issuing bonds for addition to water-works; W. M. Robb, clerk. (Recently noted.) Mo., Joplin.—Villa Heights Booster Club

will petition City Council for franchise to pipe water into Joplin.

Mo., Mountain Grove.—City voted \$25,000 bond issue to construct water-works. Address Mayor Candler.

N. C., Charlotte.—City rejected bids for building pumping station and intake and will invite new bids until December 19; work includes laying of about 160 feet 36-inch pipe in rock trench; A. H. Wearn, clerk Water Commissioners. (See "Machinery Wanted.")

N. C., Weaverville.—Weaverville Electric Co. is interested, it is reported, in construction of water-works.

Okla., Muskogee.—City will install water-works type of condenser capable of handling 2100 pounds of steam per hour, with tubes of sufficient diameter to pass 4500 gallons per minute; bids received until December 19; Alexander Potter, 114 Liberty St., New York, is consulting engineer; E. H. Fleming, Commissioner of Water and Sewers. (See "Machinery Wanted.")

Tenn., Obion.—City awarded contract to Craig & Fisher, Covington, Tenn., at \$17,-\$53.30 to construct water-works; overhaud pumping station; install two compound duplex pumping engines and 50,000-gallon tank on 90-foot tower; C. H. Jenks, engineer, Union City, Tenn. (Call for bids lately noted.)

Tex., Decatur.—City will vote January 2 on \$18,600 bond issue to purchase and improve Decatur Water, iLght & Power Co.'s plant damaged by fire; \$10,000 is to be expended for purchase and \$8000 for improvements. Address The Mayor. (Recently mentioned.)

Tex., Dublin.-City will install water-works system. Address The Mayor.

Tex., Rio Hondo.—Rio Hondo Public Utilities Co. incorporated with \$10,000 capital: stock by W. P. Morrison, E. H. Smith and: F. M. Paul, Sr.

Va., Chase City.—City is considering construction of water-works and sewer system; estimated cost, \$80,000. Address The Mayor.

Va., Dayton.—City, J. W. Gaither, Mayor, will expend within \$25,000 for water-works: construction recently noted; plans not decided; open bids in spring, 1912; N. Wilson, Davis, engineer, Harrisonburg, Va.

Va., Dayton.—City voted bond issue for construction of water-works. Address The-Mayor.

W. Va., Charleston.—Eureka Pipe Line Co., S. R. Ball, secretary, applied to Kanawha County Commissioners for 50-year franchise to lay pipe lines for conveying water, gas and steam.

WOODWORKING PLANTS

Ala., Mobile—Handles.—H. C. Truelove and J. M. Vance will incorporate company to establish handle factory; four buildings; toolhouse erected will be equipped as ollhouse; building materials ordered. Address Mr. Truelove or Mr. Vance, care of Mobile Progressive Association.

Ala., Mobile—Handles.—Mobile Handle Co. will be organized by O. M. Vance, Dean Clark, H. C. Truelove and J. M. Vance to establish plant to manufacture hickory handles; will construct buildings and install sidetrack. Address, care of Secretary Carter of Mobile Progressive Association.

Ark., Fort Smith—Carriages.—A. R. Armbruster, Charles Keyser and Walter Walkard will erect carriage factory; brick; 50x100 feet; will incorporate Armbruster & Co. Carriage Works.

Mo., St. Louis-Stairs, etc.—Herbert Fichkorn, 4645 Virginia Ave., and George Cedarwall, 4247 Oregon Ave. (contractors), purchased site and will erect plant to manufacture stairs, staircases and window sashes; , 1911.

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sect building 50x163 feet; brick; cost \$12,000

v c Lexington-Chairs.-Lexington Chair Co. awarded contract for erection of recently-noted addition; two-story 45x90-foot building.

N. C. Rocky Mount—Wagons, etc.—W. T. Rose & Son will creet building; two stories; 27x125 feet; brick; equip for manufacturing wagons, buggles, etc., and for repairing au-

Weldon-Boxes,-Roanoke Box Co incorporated with \$50,000 capital stock by G. L. Vincent, W. F. Deal, R. W. Jordan, P. W. Turner and others.

Weimar .- John Muick will install Tex

Tex. Weimar.—John Mulck will install woodworking plant; building erected.

Va., Dayton — Carriages. — M. A. Layman awarded contract to Shrum Bross. Dayton, to rebuild carriage plant recently reported burned; 39x60 feet, frame; 20x60 feet, brick; cost \$20.00. (See "Machinery Wanted.")

Va., Richmond.—James River Furniture & Mattress Co. will repair two story brick factory building at 312 Hull St.; cost \$5058.

BURNED

Ala., Anniston.-Calhoun Ginning Co.'s cotton gin: loss \$6000.

Ala., Birmingham.-Chamber of Commerce building damaged; loss about \$3000

Ala., Columbia.—Holland & Co.'s building, loss \$12,000; Columbia Hardware Co.'s build-ing, loss \$17,000; W. J. Bell & Co.'s building. loss \$3000.

ing, loss \$3000.

Ala. Cooper.—Depot of Louisville & Nash-ville Railroad, W. H. Courtenay, chief engi-neer, Louisville, Ky.; W. C. Robinson's store; J. O. Barret's store; J. O. Barret's cotton gin and warehouse; loss about \$12,000

Ala., Geneva.-R. L. Theus' cotton gin;

Ala., Demopolis.—John T. Ballow's residence on Main St.

Ala., Opp.-J. T. Boutwell's residence.

Ala., Thomaston.—Buck Drug Co.'s store, loss \$7000; Thomaston Mercantile Co.'s store, loss \$20,000; L. S. Fox Company's building, loss \$25,000.

Ark., Argenta.—Gabe Pratt's residence and J. E. Quidor's residence on E. Arkansas St.; loss \$6000.

Ark., Womble,-School building. Address The Mayor.

D. C., Washington.—Edward F. Barker's stable at 621 New York Ave. N. W.; building owned by James G. Bowen, 1127 12th St. N. W.; loss \$25,000.

Fla., Macclenny.—Macclenny Hotel, owned by M. D. Barber; loss several thousand dol-

Fla., Palatka.-Wilson Cypress Co.'s mill.

Ga., Galnesville,—M. C. Brown's buildings, occupied by Charles Castleberry and Jake Sacks, loss \$15,000; Z. T. Castleberry's build-ings, occupied by Palmour Hardware Co. and First National Bank, loss \$15,000.

Ga., Hawkinsville.—Thompson Oil Mill Co.'s cotton-oil mill; loss \$10,000. Ga., Louisville.—Associated Reformed Pres-

byterian Church; loss \$3000. Address Pastor, Associated Presbyterian Church. Address The

Ga., Macon,-John Souther's residence in East Macon; loss \$5000.

Ga., Madison.-Madison Oil Co.'s cottonseed oil mill and cotton gin: loss \$1000.

Ga., Pavo. - Pavo Academy; loss about

Ga., Savannah. - Neal Blun Co.'s store building owned by Henry Blun, Sr.; loss

Ky., Midway.-Matt Winn's stable, loss 8500: 10. Lehman estate's two residences, loss \$5.001: D. Lehman & Son's furniture and undertaking establishment, loss \$7500.

Ky., Owensboro,-Ohio Valley Dry Goods

Ky., Nicholasville.-Mrs. Elbert Warner's

resider Ky., Whitlock.-Mrs. Thomas Parks' resi-

dence near Whitlock. La., Amite.-Cumberland Telephone & Tele graph Co.'s telephone exchange: loss about

La., New Orleans .- Thomas Ryan's build-

ing on Carrollton Ave. near Belfast St.; lose

Leesville, S. C.-Leesville Oil Co.'s cotton-oil mill; loss reported as \$100,000.

La., Patterson.—Tribune Publishing Co.'s building, R. Daigie's confectionery store, Louis Villiner's store, W. J. Levy's store and residence, W. J. Ager's residence, H. B. Boudreaux's residence, Patterson Operaore than \$100,000.

Md., Westport.-Carr-Lowrey Glass Co.'s lirect-fire furnace building: loss \$25,000.

Mo., Appleton City.—Brown & Browning store; S. S. Willis' store; Williams & Son' store; loss \$15,000 to \$20,000.

Mo., Joplin .- M. L. Parkinson's residence at 1617 Ohio Ave.; Mr. Neely's residence at

Miss., Gloster.—Shaffer Hotel, owned by B.
H. Day of New Orleans, La.; several dwellings owned by W. A. Wilkinson of Shelly,
Miss.; Mrs. L. Wickert's two dwellings; Mrs.
Nell Anderson's two dwellings; F. A. McLain's five dwellings; five dwellings of J. T.
Daniels of Cole, Miss.

Mo., Kansas City. — Long Bros. Grocery Co.'s store; loss on building, \$60,000.

N. C., Davidson.-Rev. W. H. Hudson's residence : loss about \$3000.

N. C., Durham.-Frank L. Fuller's res dence in Durham county, occupied by J. R. Ray.

N. C., Burlington.-L. J. Fonville's store warehouse and two dwellings; loss \$7000; H. G. Kime's barn and dwelling.

N. C., Nashville.-N. C. Warren's cotton gin and grist mill; loss \$8000 to \$10,000.

Okla., Chelsea,-Chelsea Oil Refining Co.'s oll refinery; loss \$15,000.

Okla., Olustee.-Tinsley Bros.' cotton gin; loss \$15,000.

Okla., Walters .- Parks Bros.' cotton gin :

S. C., Beaufort.-Beaufort County Demo crat Printing & Publishing Co.'s plant; esti-mated loss \$3000; Charles Bellinger, manager.

S. C., Columbia.-Swift & Co.'s cottonseed loss about \$125,000; main office, Chi-

S. C., Columbia.—L. H. Matthews' resi-tence at 2509 Laurels St., Waverly; loss \$3500. S. C., Fair Play.-F. B. Watson's cotton

S. C. Holly Hill.-High-school building.

S. C., Manuing.—Manuing Oil Mill's fer-tilizer factory; C. R. Sprott, manager.

S. C., Monck's Corner.-J. W. Brittingham's millinery store; Berkeley Supply Co.'s

S. C., Sumter.—Joel Brunson's barn and stables on Mayesville Rd.

Tenn., Friendship. — Haley & Stallings' notel and livery barn; loss about \$7000.

Tenn., Memphis.-W. H. Martin's residence at 1741 Glenwood Pl. damaged; loss about

turing Co.'s cotton gin and two cotton-houses; loss about \$14,000.

Tex., Bristol, R. F. D. from Crisp .- Bentley Bros.' store; A. J. Davis' store; Matt Andrews' store; T. E. Roberts' blacksmith shop; Amos Davis' restaurant; C. W. Bentley's building and other structures; total loss about \$25,000.

Sayles, Jr., and occupied by K. P. L. Auto Co. Tex., Groesbeck.-Joshua Wood's residence;

Tex., Houston.-North Pole Dye Works.

Tex., Houston.—Grandstand and bleachers at West End Park; owned by Otto Sens.

Tex., Huntsville. — Texas State Penitentiary's 11 buildings, including cotton and furniture factories, machine shops, ice plant and office building; loss about \$300,000; Oscar B. Colquitt, Governor, Austin, Tex.

Tex., Orange. - Ode Reveto's farmhouse

Tex., Teague.-L. R. Boyd's residence; loss

Tex., Marshall.—Eleven cottages owned by Driskill Bros.; loss \$5000.

Tex., Mincola.—Mincola Novelty Works, loss \$3000; Brazelton-Pryor Lumber Co.'s plant, loss \$12,000.

Tex., Orange.—St. Vitalis' Catholic Church on Cherry St.; Rev. R. C. Frei, pastor.

Va., Campbell. - Money School building; ces \$4000 to \$5000. Address School Trustees.

Va., Coeburn.-J. H. Spears' residence

Va., Hot Springs.-W. Lee Beckner Hay &

Va., Norfolk. — Bass, Daugherty & Co.'s ullding at 17-19 Commerce St. damaged; loss about \$12,000. Va., Norfolk.-W. W. Cason's residence;

W. Va., Hinton.—Young Men's Christian Association Building; loss \$6500.

W. Va., Hinton.-Young Men's Christian Association Bldg.; loss \$4000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

D. C., Washington.—William H. Sholes, Columbia Bidg., will erect npartment-house at 1771 Lanier Pl. N. W.; cost \$40,000.

Fla., Bradentown.-Dr. D. M. Leonard will Fla., Bradentown.—Dr. D. M. Leonard will erect two apartment-houses on Leonard Ave. Fla., Tampa.—A. J. Knight is having plans prepared by A. L. Shaw, Tampa, for store and apartment building. (See "Stores.")

Mo., Kansas City.-W. W. Goodwin erect store and apartment building.

Mo., Kansas City .- A. V. Thurmond will erect tenement-house at 3607 Summit St.; brick vencer; cost \$7000.

Mo., Kansas City.—T. T. Mitchell will erect five apartment-houses; six apartments each; three stories; brick and stone; cost \$10,000 each.

Mo., St. Louis. - Jacob Ribin will erect tenement-house at 3949-51 Hartford St.; dou-

ble; two stories; cost \$6000. Mo., St. Louis.-Carl Lund will erect double apartment building

Mo., St. Louis.—F. J. Cornwell & Son, 807 Chestnut St., will erect apartment-house; 60x105 feet; fireproof construction; cost

Tenn., Nashville.—Mrs. Ellen C. Milam has plans by R. E. Turbeville, Nashville, for apartment-house; two stories; tapestry brick; hardwood finish; semi-bungalow type; ost \$7000.

Tex., Waco. — J. W. Riggins will erect apartment-house on Austin St.; four sto-ries and basement; cost \$60,000.

Va., Richmond.-V. L. Perkins will erect we two-story brick tenements on Main St.;

Va., Richmond.-W. H. Crawford will erect four brick tenement-houses on Main St. be-tween Deep Run and Shepherd Sts.; two stories; cost \$22,000.

Va., Richmond. - Edwin Pleasants will rect tenement-house : brick : cost \$4500.

Va., Richmond.-Chapin & Hume will ere tenement-houses; two stories; brick;

cost \$2000.

Va., Richmond.—H. H. Phauf and J. L. Wiltsbire will erect two-story brick tenement-house on 33d St. between Marshall and Broad Sts.; cost \$4800.

ASSOCIATION AND FRATERNAL

Ala., Mobile.—Independent Order of Odd Fellows has plans for proposed Temperance Hall improvements to cost about \$30,000; will remodel interior and exterior; provide auditorium to sent about 1500 people; lower floor for stores, which will have glass

D. C. Washington,-Young Women's Chris tian Association, Mrs. Lillian H. Bayly, president, 12th and F Sts. N. W., will erect

Ga., Vidalia.-Ancient Free and Accepted Ga., Vidalla.—Ancient Free and Accepted Masons has plans for Masonic temple; three stories; lower floor for business purposes; second floor for city offices and Mayor's court, and upper floor for lodgerooms.

Ky., Lexington.—Kentucky Knights of Pythias will issue \$50,000 of bonds to improve the partial of the property of the propert

ove and maintain Pythian Widows and rphans' Home.
La., Hammond.—Independent Order of Odd

vs will erect lodge building at Thomas

and Cherry Sts.; cost \$4500.

Md., Baltimore. — Supreme Council, Loyal Order of Moose, Henry Yewell Rrady, dicta-tor, 501-3-5 Gaither Estate Bldg., 111 N. Charles St., is reported as considering Balti-more and vicinity for location of proposed temple, national college and institute and home for aged members.

Md., Baltimore.—Isaac R. Trimble Camp, United Sons of Veterans, Charles H. Mettee, adjutant, 1827 E. Biddle St., has option on building at 908 Madison Ave. and plans to expend \$15,000 to \$20,000 to purchase and model same; also plans to erect addition. and re-

Miss., Meridian. — Railroad Young Men's Christian Association, J. D. Meadows, gen-eral secretary, plans to erect building.

Okla., Muskogee.—Woodmen of the World, Camp No. 525, plans to erect lodge building. Tenn Nashville.-Nashville Chapter, Sigma

Alpha Epsilon Fraternity, John Early, president, will erect fraternity-house; cost \$12,000. Tex., San Antonio. — San Antonio Union Temple Co. incorporated with \$50,000 capital

stock; plans are being prepared for labor temple; three or four stories. (Labor Tem-ple Co. recently noted to erect structure.)

Va., Danville.-Danville Lodge No. 227, Beopen bids about April 1 to erect lodge building; 50x130 feet; three stories and basement; cost \$25,000; plans by Charles G. Petit, Jr., Danville. (Recently noted.)

Va., Norfolk. — Khedive Temple, Ancient Arabic Order Nobles of the Mystic Shrine, John N. Sebrell, illustrious potentate, plans to erect temple; cost about \$50,000.

W. Va., Bluefield,-Ancient Free and Accepted Masons will erect Masonic Temple; cost about \$50,000.

W. Va., Hinton.—Young Men's Christian Association will probably rebuild structure reported burned at loss of \$4000.

BANK AND OFFICE

Ala., Fort Deposit.—J. E. Holmes will erect two store and office buildings; con-crete construction.

Ark., Little Rock.—George W. Caldwell of Caldwell & Drake, Columbus, O., is reported as interested in plan to erect 14-story office building.

D. C., Washington.—George von L. Meyer, Secretary of Navy, 1301 16th St. N. W., pur-chased Elsmere building on H St. between 14th and 15th Sts. N. W., and will remodel and connect with Maryland Building adjoining.

D. C., Washington.—Eldridge E. Jordan, president of United States Trust Co., 1405 G St. N. W., is reported to have purchased site at 13th and H Sts. N. W., and to erect

D. C., Washington.-Southern Railway, B. Hermann, chief engineer, 1300 Fennsylvania Ave, N. W., will expend \$3000 for improve-ments to building at 1310 E St. N. W.

Ga., Gainesville, - Z. T. Castleberry will erect bank building to replace structure reported burned : three stories.

Ky., Louisville.-Louisville Railway Co. will erect two-story brick office building and one-story frame car shed; cost \$3000 and \$5400, respectively.

Md., Baltimore.—Spedden Shipbuilding Co. Boston St. and Kenwood Ave., will erec store, office and warehouse building.

Miss., Hattiesburg.—D. Emmett McInnis has plans by L. M. Weathers, Memphis, Tenn., for proposed office building; five stories; concrete, brick and stone; fireproof; traction elevators.

N. C., Henderson.—First National Bank

N. C., Henderson, First National Bank has plans by Sayre & Baldwin, Anderson, S. C., for fireproof building; four stories; 25x85 feet; pressed brick; stone and terra-cotta exterior; tile floors; marble walnscoting and fixtures; steam heat; electric ele-vator; electric lighting; cost \$35,000. (Recently noted.)

N. C., Weaverville.-Farmers and Traders' Bank contemplates erection of bank and

Okla., Muskogee.-T. H. Martin will erect eight-story building at Court and Second Sts. and lease five upper floors to county; fireproof; steel and concrete.

S. C., Columbia.-National Loan and Exchange Bank has plans by James Brite, New York, for building adjacent to and connecting with present structure; 172 offices.

S. C., Columbia.—Union National Bank has plans by W. A. Edwards, 632 Candler Bldg., Atlanta, Ga., for bank and office building; 10 stories; white glazed terra-cotta and light-colored press brick; two elevators enclosed in wire glass; gothic spires on roof around coping; fireproof c (Previously noted.) of construction; steam heat.

(Previously noted.)

Tex., San Saba.—Estate of Joseph 8. Clark will receive bids until 2 P. M. December 18 for erection of brick and stone store and office building; certified check for 5 per cent. amount of bid, payable to George B. Clark; construction to begin not later than January 1; contractor to state time required for completion; plans and specifications at office of John Seiders, San Saba; bidders wishing exclusive use of plans may obtain same on deposit of \$30; plans by William R. Smith, San Saba.

va., Portsmouth.—Norman Cassell will expend \$6000 to convert Y. M. C. A. building into office structure, including installation of steam-heating plant; plans by Chas. M. Cassell, Portsmouth; work supervised by

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

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Tyree Bros., Norfolk, Va.; all subcontracts

CHURCHES

Ala., Birmingham. — Cumberland church, Rev. J. D. Lewis, pastor, will crect edifice at Twelfth Ave. and 27th St., Norwood; brick; seating capacity of 500.

Ala., Montgomery. - Central Presbyterian Church is having plans prepared for pre-posed edifice at Hull and Felder Sts. Ad-dress The Pastor, Central Presbyteria Church.

, Jonesboro.-First Baptist Church will Ark., Jonesboro.—First Baptist Church Wil expend \$40,000 to crect edifice; 70x137 feet; or-dinary construction; steam heat; electric lighting; prism light sidewalks; plans (re-cently noted) prepared by C. W. Bulger & Son, Dallas, Tex., will be ready by January 15.

Fla., Ocala.—Baptist congregation percet \$40,000 edifice. Address The Pa Baptist Church.

Fla., Ocala.-Baptist congregation plan erect edifice; cost over \$10,000. Address Pastor, Baptist Church.

Ga., Atlanta. – Druid Hills Methodist Church, Rev. S. E. Wasson, pastor, is having plans prepared by A. N. F. Everett, Atlanta, for edifice at Blue Ridge and Seminole Aves,; brick and stone; Salem meeting-house type; portice with colonial pillars in front; capacity of main auditorium about 500 : of Sunday-school auditorium about 400

Md., Baltimore. - All Saints' Protestant Episcopal Church, Baltimore and Monroe Sts., has plans by A. Lowther Forrest, 405 Hoffman Bldg., Baltimore, for alterations to present structure and one-story brick addition: architect is receiving bids.

Mo., Kansas City.—Presbyterian Church eing organized; W. R. Lampson, S. being organized; W. R. Lampson, S. H. Smith, Peter W. Keith and others, elders erect edifice

Mo., St. Louis. - Grace Evangelical Lutheran Church, Rev. Martin F. Sommer, pas-tor, has plans by Charles F. May, St. Louis, for proposed edifice at St. Louis and Garrison Aves. : stone : cost about \$100,000.

Mo., St. Louis. - Pilgrim Evangelical Lutheran Church has plans by Lawrence Ewald and John A. Lange, St. Louis, for proposed edifice; Gothic style; stone; 25x80 feet; tower at corner; auditorium to seat

N. C., Apex.-Baptist Church will expend \$10,000 to erect edifice; ordinary construc-\$10,000 to erect edifice; ordinary construction; but air heat; plans by Frank B. Simp son, Raleigh, N. C.; A. B. Hunter may be addressed. (Recently noted to receive bids ntil January 1.)

N. C., Fayetteville.—Haymount Presbyte rian Church, C. C. McAlister, chalrman of building committee, invites architects submit plans for edifice; brick; steam heat; cost \$10,000; work probably to begin in January. (Previously noted.)

N. C., Winston-Salem.—Friends congrega-tion, Rev. D. F. Sampson, pastor, plans to

Okla., McAlester,—Cumberland Pr Church plans to erect edifice. Address The Pastor, Cumberland Presbyterian Church.

Tenn., Cordova. — Cordova Presbyterian Church will rebuild edifice; plans not deter mined; will probably employ local archi W. G. Allen may be addressed. (Recently reported burned.)

Tenn.. Lebanon. - Methodist nurch South will erect addition to and im ove edifice; cost about \$15,000. Address Pastor, Methodist Episcopal Church South

Tex., Dallas. - East Dallas Pres Church, Rev. G. W. Benn, pastor, will erect oposed edifice

Tex., Orange,-St. Vitalis' Catholic Church Rev. R. C. Frei, pastor, will rel reported burned; about 40x80 feet

Tex., San Antonio.-Episcopal church has plans by Atlee B. Ayres, 626 Bedell Bidg., San Antonio, for edifice; 60x115 feet; frame, brick and stone; tile roof; steam heat; cost \$35,000.

Tex., Waxahachie. — Methodist congrega-tion will erect additional story to parsonage and annex to Sunday-school room to cost Pastor, Church

Va., Richmond.-Grace Street Presbyterlan Church plans to erect edifice in West End; Dr. F. T. McFaden, Rev. J. J. Fix, Rev. R. B. Eggieston and others, committee

Va., Richmond. — St. Thomas hurch, Rev. Frank A. Ridout, recto ids to erect proposed edifice at Gin Thomas Episcopal bids to erect proposed edifice at Ginter Park; W. L. Ragland Company, Richmond, was lowest bidder at \$13,280; English Gothic Virginia granite; vill includ church auditorium, parish-house and Sunday-school room

Va., Suffolk.-Suffolk Baptist Church will erect edifice; seating capacity over 1000 on first floor; cost \$32,000. Address The Pastor, Suffolk Baptist Church.

CITY AND COUNTY

Ark., Little Rock—Stable.—Fred A. Is; erk of Board of Public Affairs, will ceive bids until December 15 to erect stable at 18th and McGowan Sts. stalls for horses and two hospital stalls; plans by R. P. Morrison, Little Rock.

Fla., Lakeland-Fire Station.-City co Pin. Lakeland—Fire Station.—City contem-plates advertising bids for erection of fire station; John F. Cox, Mayor. (Bond Issue of \$15,000 recently noted to be voted Decem-

Ga., Atlanta-Armory.-Fulton County Com ers and city will expend about \$12,000 for improvements to armory; plan is to com-plete room 40x100 feet for lockers and equip-ment of several companies and providing inevensed capacity of galleries about 1000.

Ga., Athens—Jall, etc.—Clarke county de feated \$293,000 bond issue to erect jall, jall-er's residence and courthouse; J. M. Hodgchairman of committee. (Recently motod i

Ga., Douglas-City Hall.-Mayor and City Council Invite bids until noon December 18 to creet city hall; brick; reinforced concrete construction; plans prepared by G. Lloyd Freacher, Augusta, Ga.; B. H. Tanner, Mayor. (Recently noted.)

La., Lake Chales-Jail.-Calcasieu Parish La., Lake Chales—Jall.—Chicashel Parish Police Jury will receive bids until 10 A. M. January 9 to erect two-story-and-basement Jall; concrete and brick; plans, specifica-tions, etc., from Favrot & Livaudais, Ltd., architects, 839 Gravier 8t., New Orleans, La.

Ga., Vidalia-Office Building.-Ancient Fre Accepted Masons will erect building for ness and lodge purposes and offices of officials. (See "Association and Fraternal."

Md., Baltimore-Stable.-Board of Awards ames H. Preston, president, will receive Clev Hall, until December 20 for erecting and furnishing building on Ridgely St. near West St.; certified check for \$500, payable to Mayor and City Council; plans and specifi-cations at office of Clarence S. Stubbs, Inafter December 11: plans by Carroll, 1210 Continental Bldg. contractors estimating are letion Co., 64 Knickerbocker and R. B. Maron, 210 E. Lexington St., both of Baltimore. (Recently noted.)

Okla., Muskogee-County Building.-Musko tee county will lease five upper stories of eight-story structure to be erected by T, H. Martin at Court and 2d Sts. (See "Bank and

Tenn., Binghamton-City Hall and Police Station.—City will have plans prepared by B. C. Alsup, Memphis, Tenn., for proposed city hall and police station, which will probably be united in one structure; Dr. H. B. Everett chairman of Commission usly noted.)

Tex., Alice-Jail, etc.-Jim Wells county Is having plans prepared by Atlee & Ayres, 626 Bedell Bldg., San Antonio, Tex., for court-house and jall. (See "Courthouses.")

Tex., Brownsville - Jail, etc. - Can will open bids about January erect courthouse and jaii; plans prepared by Atlee B. Ayres, 626 Bedeli Bldg., San Antonio, Mr. Ayres was recently noted to have ract. (See "Courthouses."

Tex., Galveston-Jail. - Galveston County Commissioners are considering erection jail to replace present structure; four ries; walls 40 feet high, 21 inches thick; 27 windows on each floor; two floors of steel cells with 16 cells on each floor; room for 10 additional cells on fourth floor; cells of steel bars 1½x2½ inches, set to admit light and air; solid partitions; corridor 10½ feet wide running entire length of cells; first floor for jailer's rooms, storage, kitchen, of-fices, etc.; tollets, shower and tub baths on each floor; double pair of mullioned window at each end of structure; stairs provided with grated doors; floors of steel grating covered with cement; hot-water heat; capacity for 128 prisoners; cost about \$30,000; G. Mann, County Judge.

Catawba Sanatorium-Pavilion. Va., tawba Relief Association plans to erect addi-tional pavilion for tubercular patients; A. W. Barron, secretary-treasurer, may be addre

COURTHOUSES

Fia., Arcadia.—De Soto County Commis-sioners will receive bids through H. E. Carl-lon, Clerk, until noon January 2 to erect courthouse; certified check for 2 per cent. of bid: plans and specifications at offic bid, pans and speciations at once of the E. Carlton, Arradia, and Bonfoey & Elliott, architects, 509 Franklin Bldg., Tampa, Fla., or may be had on deposit of \$59. (Recently noted.)

000 bond issue to erect courthouse and plans either to vote on same issue in April or sell resent site and build structure, levying usect tax to pay for same; J. M. Hodgson, hairman. (Lately noted to vote on bond sent site and build structu ssue December 7.)

Ga., Athens,-Clarke county defeated \$200 00 boud issue to erect courthouse, jail and iniler's residence: J. M. Hodgson, chairman nittee. (Recently noted.)

Tex., Alice.—Jim Wells county will expend \$90,000 to erect courfhouse and jail; 100x75 feet; brick and stone; tile roof; steam heat; tile floors and marble wainscoting; plans (recently noted) prepared by Atlee B. Ayres, 626 Bedell Bldg., San Antonio, Tex.

Tex., Brownsville.-Cameron county will Tex., Brownsviie.—Cameron county will open Idds about January 20 to erect court-house and Jall; 110x110 feet; fireproof con-struction; steam heat; electric lighting; cost \$160,000; plans by Athee B. Ayres, 626 Bedell Bldg., San Antonio, Tex. Cont.act recently noted awarded to Mr. Avres.)

Tex., Dalhart.-Dallam County loners will call election to vote on bond issue o erect \$100,000 courthous

Tex., Giddings.-Lee County Judge receives bids until December 14, 3 P. M., for remod-eling and repairing courthouse; certified check for 10 per cent, amount of bid; plans and specifications at office of C. H. Page & Bro., architects, Austin, Tex.

DWELLINGS

Ala., Foley.—John Davis will, It is re-orted, erect several dwellings.

Ala., Foley,-Geo, Gust will erect residence Washington.-William Crozler, Massachusetts Ave. N. W., is reported to erect residence at Rock Creek Drive and Renton St. Massachi setts Heights

D. C., Washington,-II, A. Kite, 1333 G St. D. C., Wassington,—R. A. Kite, 1835 G St. N. W., will erect dwellings at 245-61-63 Ten-nessee Ave. N. E. to cost \$21,450, at 1327-1337 C St. N. E. to cost \$10,800, and at 246-262 Warren St. N. E. to cost \$16,500.

D. C., Washington.-C. W. King, Jr. New York Ave. N. W. will erect dwelling at 2803 Ontario Rd. N. W.; cost \$6000,

D. C., Washington,-J. S. Gruver, president of Thrift Building Co., Union T Bildg., will erect dwellings at 2165-07 N N. W. and 2111-37 Warder St. N. W.; \$16,000.

Washington.-St. N. W., will erect dwelling at 26th St. and Pierce Rd. N. W.; cost \$3000.

D. C., Washington,-George B. McLaugh lin, 3219 Warder St. N. W., will erect dwell-

D. C., Washington.-Charles E. Wire, 1413 St. N. W., will erect dwellings at 64-78 St. N. W.; cost \$18,000.

D. C., W D. C., Washington.—J. E. Bury, 148 11th St. S. E., will erect dwellings at 3012-20 Sherman Ave, N. W.; cost \$10,000.

D. C., Washington.-Howard M. Etchis 1882 Columbia Rd. N. W., will erect dwelling at 1884 Columbia Rd.; cost \$45,000.

Fla., Jacksonville.-Frank Bandel will erect o-story frame dwelling

Fla., Jacksonville. - J. II. Blodgett will brect three two-story and one one-story ree two-story and one one-sto vellings on Caroline and Cedar Sts

Fla., Ocala.-C. L. Gamsby will erect resi-

Fla. Tampa.-T. J. Herndon will nce in Tampa Heights; bungalow type; ost \$3500.

Fla., Tampa.-Dozier A. De Vane is having lans prepared by Bonfoey & Elliott, Tampa, for residence; frame; cost \$4500.

Ga., Atlanta. — Druid Hills Methodist Church, Rev. S. E. Wasson, pastor, plans to erect parsonage after church is completed.
(See "Churches.")

Ga., Atlanta.—J. H. Morehead, Jr., will erect residence at 195 N. Moreland Ave.; two stories; frame; cost \$4000.

Ga., Atlanta.—Hughes Spalding will ere residence at 33 W. 14th St.; cost \$4500.

Ga., Atlanta.—Mrs. Etta Irwin will erect dwelling at 325 Lee St.; cost \$4720.

Hugh L. Nevin, Louisville, for residence; brick veneer: cost \$8000.

Ky., Louisville.—Nettle Ruhl will erect wo story brick dwelling at 765 S. Brook St.: cost \$4000.

two-story dwelling at 3428 Pine St.

cost \$3000. La., New Orleans,-George R. Gragard will rect residence; two stories; cost \$3840

Md., Baltimore.-John G. Klein, 703 S. 4th East, will erect two dwellings on Falls Ros

Md., Baltimore.-Provident Realty P. ration, Garrison and Bateman Aves., is hav-ing plans prepared by Henry J. Tinley, 3t N. Charles St., Baltimore, for residence on Elsinor Ave. between Alto and Bateman Aves. : two and a half stories : frame : 24x3 st about \$1000

Md., Baltimore.—F. E. Tobe, 2403 W. North Ave., will erect 12 dwellings on Bentalou St. near North Ave.; 15x55 feet; two sto-ries; brick; cost \$18,000; plans by and con-struction under supervision of owner.

Md., Baltimore.-Walter Westphal, 1700 N Hond St., is having plans prepared by Sam-uel A. Bersterman, 35 N. Potomac St., Balti-more, for 100 dwellings; 40 on Brice St., 40 on Mulberry St. and 20 on Payson St.: two stories: 13x45 feet: cost \$130,000.

Md., Baltimore.—Walter Stahl, Jr., 10 Inde-endence St., will erect two two-and-a-halftory frame cottages at Liberty Heights and Iamilton Aves., Howard Park.

Md., Baltimore.—William J. Marshall, Jr., will not at present erect residence on Uni-versity Parkway. (Recently reported.)

Md., Baltimore.-Dr. Theodore Cooke, 914 N. Charles St., will creet six dwellings on 3ist St. between Harford Rd. and Jenifer St.; iron-spot brick; stone.trimmings; 24x135 feet; cost \$12,000.

Baltimore,-Charles B. Burdette, 226 will expend \$7500 to erect N. Fulton Ave., will expend \$7500 to erective dwellings; 14x47 feet; ordinary constructions. tien; brick; hot-air heat; gas ilg porch fronts; laundry in cellar; plans Roland Burdette, 226 N. Fulton Ave., lighting construction by owner. (Recently noted.)

Hattiesburg.-D. Emmett Miss. has place by L. M. Weathers, Memphis, Tenn., for residence; 200x200 feet; two sto-ries; fireproof; cement plaster on metal ries; fireproof; cement plaster on m lath; hardwood, marble and tile interior ishings; hot-water heat; intercommunicating phone system : cost about \$30,000.

Mo., Kansas City.-Russell Investment Co. will erect frame dwelling at 4921 Walrond St. and two brick-veneer dwellings at 1300 and 1302 Montgall St.; cost \$2500 each.

Mo., Kansas City.—T. R. Wheelock will erect two stone-veneer dwellings at 15 W. 58th St. and 5804 Brookside St., frame dwelling at 29 W. 58th St., and stucco dwelling at 5812 Brookside St.; cost \$13,000.

Mo., Kansas City.-G. L. Brown will erect stuce of welling at 215 E. 55th St.; cost \$6000.

Mo., Kansas City.—J. L. Ward will erect five frame dwellings in 3800 block of Chestnut St. : cost \$8750.

Mo., Kansas City.-J. W. McKamey, 3831 Inrrison St., will erect residence at 56th St.

Mo., Kansas City.-Roger Davis will erect

Mo., Kansas City.-T. D. Drumbeler will ostory dwelling at 21 E. 54th St.;

Mo., Kansas City.-R. R. Russell will erect free frame dwellings at 4032-36-38 Walrond St.; cost \$1450 each.

Mo., Kansas City.-T. H. & C. E. will erect stone-veneer dwelling at 3314 Prosnect St.: cost \$4000.

Mo., Kansas City.-T. R. Wheelock will t four dwellings; stone veneer and co; two stories; cost \$13,000. rect

Okla., Oklahoma City.—H. N. Schoffeld Is having plans prepared by F. E. Fagerguist, 719 Insurance Bidg., Oklahoma City, for dwelling; 28x41 feet; cost \$6000. (Recently recently) noted.)

St. Louis.-William F. McHenry erect two-story dwelling at 6037 Northland St.: cost \$3000.

Mo., St. Louis.-Ribara Realty & Building Co. will erect two dwellings at 4715-17 Morgan Rd.; two stories; cost \$5000.

Mo., St. Louis.—J. A. Prahl will erect two-tory dwelling at 3970 Arsenal; cost \$1000.

Mo., St. Louis.-Anthony Brandenburg will

dwelling at 325 Lee St.; cost \$4720.

Ky., Louisville.—James J. Hayes, cashier of National Bank of Commerce, has plans by Magnolia St.; cost \$6000.

will erect S. Brook

Pine St :

agard will \$3840 703 S. 4th s on Falls

Okla., Tulsa.—A. J. Biddison will erect dwelling; two stories; frame; cost \$6000.

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S. C., Charleston.—Rosa S. Bretham will rect residence at 51 Carolles Co. cost \$2300. S. C., Charleston.-F. C. Buggel will erect residence at 694 King St.; frame; cost \$3500.

December 14, 1011.1

S. C., Columbia. — St. Peter's Catholic Church will erect parsonage; brick. Ad-dress The l'astor, St. Peter's Catholic Church.

Mo., St. Louis.-William Crossmeyer will

erect store and dwelling at 2800 Park St.; two stories; cost \$5000.

N. C., Durham.—Frank L. Fuller will crect residence to replace structure reported

N. C., Kitty Hawk.—The Wright Company, hayton, O., and New York, will probably rect bungalow. (See "Miscellaneous Struc-

dress the Landrum.—Chocolate Land Co., Chas.
A. Jefferles, president, Union, S. C., will
erect farmhouse, barns, etc., in connection
with development of 1200 acres of land. (See "Land Developments.")

8. C., Orangeburg. — Orangeburg District Methodist Church, Rev. Charles B. Smith, residing elder, will make improvements to Tenn., Memphls.-Bids received by Board

Tenn., Memphis.—Bids received by Board of Education, addressed to A. B. Hill, secretary, until noon December 11 for excavation, concrete and brick work for janitor's residence at Central High School according to plans by Alsup & Smith, architects, Memphis: certified check for \$250, payable to A.

R. Hill.

Tenn., Nashville.—Powell Phillips is having plans prepared by R. E. Turbeville,
Nashville, for bungalow; eight rooms; frame : cost \$3000.

Tenn., Nashville,-E. E. French has plans by R. E. Turbeville, Nashville, for resi dence: nine rooms; hardwood floors; slate roof; cost \$5000.

Tex., Denison. — St. Luke's Episcopal Church, Rev. T. J. Oliver Curran, rector, will erect rectory; cost \$3000.

Houston.-J. J. Shannon will erect nom residence, servants' quarters and stable : cost \$3000.

Houston.-Isham T. Roberts of Gulf Coast Construction Co., 906 Scanlan Bldg., will bet contract to erect proposed dwelling in Park Pl.; cost \$3500; work will begin about January I.

Tex., Houston.-Otto Hess has plans for dwelling and store. (See

Tex. Houston.—O. O. Ballard will let con-tract about December 15 to erect bungalow in Park Place; cost \$3000; plans by Gulf Coast Construction Co., 206 Scanlan Bldg., Houston

Tex., Paris.-Jack Smith will erect veneered brick residence

Tex., Waxahachie.-Methodist congregation will erect additional story to parsonage. Address The Pastor, Methodist Church. (See "Churches.")

Va., Richmond.—S. G. Meredith will erect six dwellings; 18x42 feet; three stories; ordimary construction; grates; cost \$15,000; con-

struction by owner.

Va.. Richmond.-J. K. Dunlop will erect two-story brick dwelling on Monument Ave. between Robinson and Mulberry Sts.; cost

Va. Roanoke - Empire Investment Co erect two-story frame dwelling; cost

two-story brick-cased dwelling; cost \$5500. W. Va., Williamson.-J. Levine will erect

GOVERNMENT AND STATE

Fla., Tallahassee-Court. - State Building Commission accepted plans by P. Thornton Marye. Atlanta, Ga., for court building; three stories and basement; 75x150 feet; cost \$5,006: A. C. Croom, secretary of building commission. (Lately noted.)

Ga., Atlanta-Postoffice,-Treasury Depart ment, James Knox Taylor, supervising architect, Washington, D. C., will petition Congress to appropriate \$50,000 to complete fifth floor of postoffice building and for plastering and mural decorations throughout entire

Ky., Greendale-Reformatory.-Prison Co. missioners, W. F. Grayot, secretary, Frank-fort, Ky., will receive bids until noon De-cember 16 for erection of cottage for negro girls on grounds of Kentucky Houses of Re form: certified check for 10 per cent. amount of bid; plans and specifications at office of flowe & Giannini, architects, City National Bank Bldg., Lexington, Ky.; Eli H. Brown, chairman of board.

Miss., Laurel — Postoffice. — Treasury Department, James Knox Taylor, supervising architect, Washington, D. C., will erect \$60. 000 postoffice building.

Okla Chickasha-Federal Ruilding -Treas ovair, Chickasha-redeval Bulding,—12 ury Department, James Knox Taylor, su vising architect, Washington, D. C., \$135,000 appropriation.

\$135,000 appropriation.

8. C., Orangeburg—Postoffice.—Treasury Department, James Knox Taylor, supervising architect, Washington, D. C., will receive bids until January 19 to creet proposed postoffice building and install water, light, heat and other connections; pressed brick; granite trimmings; two stories; basement, main and mezzanine floors; cost \$50,000.

and mezzanine floors; cost \$50,000.

S. C., Orangeburg — Postoffice. — Treasury Department, office of supervising architect, Washington, D. C. Proposals received in this office until 3 P. M. January 19, and then opened, for construction, complete (including plumbing, gaspiping, heating apparatus, electric conduits and wiring, and lighting fixtures), of United States postoffice at Orangeburg; one story and basement; 3750 square feet ground area; brick faced; stone and terra-cotta trimmings; drawings and and terra-cotta trimmings; drawings and specifications may be obtained from custo-dian of site at Orangeburg or at this office, at discretion of supervising architect, James Knoy Textor. Knox Taylor.

Tenn., Jordonia - Reformatory, - Building Tenn., Jordonia — Reformatory. — Building committee of State Juvenile Reformatory, John H. De Witt, chairman, Nashville, Tenn., rejected all bids for erection of proposed buildings at juvenile reformatory; will have plans modified by Marr & Holman, 701 Stahl-man Bidg., Nashville, Tenn., and readvertise for bids. (Recently noted.)

Tenn., Morristown - Federal Building. Treasury Department, James Knox Taylor, supervising architect, Washington, D. C., will erect Federal building.

Tenn., Morristown-Federal.-Treasury De partment, James Knox Taylor, supervising architect, Washington, D. C., is planning to sect \$70,000 Government building.

Tex., Georgetown-Postoffice,—J. H. Rob-rtson of Austln, Tex., will erect postoffice uilding and lease to Government.

Tex., Georgetown-Postoffice.-J. H. Robrtson will erect four buildings, one for ostoffice. (See "Stores.")

Tex., Huntsville—Penitentiary.—State will rebuild factory and other buildings at State Penitentiary, reported burned at loss of about \$200,000; Oscar B. Colquitt, Governor.

HOTELS

Ala., Birmingham.—Maurice Tidwell, pro-prietor of Planters' Hotel, Houston, Tex., is reported as considering erection of hotel; 175 to 200 rooms.

Ala., Tuscaloosa.-Joseph Saks and M. T. Ormondare reported to creet hotel at Gre boro Ave. and Broad St.

Fla., Orlando.—J. B. Pound, Chattanooga. Tenn., is reported as considering erection of hotel.

Ga., Atlanta.—Edwin P. Ansley Hotel Investment Co. incorporated with \$200,000 capital stock by Edwin P. Ansley of Atlanta; J. B. Pound, Chattanooga, Tenn., and others; will erect hotel on Forsyth 8t.; 10 stories; 350 rooms. (Previously noted.)

Ga., Augusta.-Wheeler Heights Company care Georgia Railroad Bank, plans to erect clubhouse and to organize company to erect tourist hotel; brick and concrete construc-(See "Land Developments.")

Ga., Macon.—North Macon Street Railway Co. will be incorporated by J. J. Cobb, Thos. B. West and others; plans to construct street railway, erect tourist hotel, etc.

Ga., Macon.—W. B. Sparks is interested in organization of company to erect 100-room hotel and clubhouse to cost about \$120,000, etc. (See "Land Development.")

Ky., Ironton.—Thomas H. Benton Jones of Columbus, O., is promoting erection of \$60,000

Okla., Checotah.-W. S. White of Oklaho City, Okla., is reported as interested in erection of proposed hotel; cost \$50,000.

Okla., Tulsa .- W. N. Robinson will expend about \$17,000 for improvements to Robinson Hotel, including redecorating, remodeling, installation of \$7000 steam-heating plant, etc.

Okla., Chickasha. — George R. Beeler ac-puired Early Hotel and will expend \$15,000 to \$20,000 to enlarge and improve. Tex., Waxahachle.-Commercial Club

promoting erection of hotel; six or eight stories; plans to organize company. Va., Tazewell.—Tazewell Hotel Corporation will be incorporated with \$50,000 capital stock to erect hotel.

MISCELLANEOUS

Ark., Fayetteville — Fair. — Washington County Fair Association plans to improve fair grounds, including construction of drive ways, erection of number of buildings, in cluding exhibit building to replace two maller ones now used : Allen G. Flowers ther of directors.

Washington-Stable .- Samuel Prescott Company, Inc., 814 13th St. N. W. vill erect stable. (See "Warehouses.")

Fla., St. Petersburg — Bathhouse. — J. M. Blanton will erect sulphur bathhouse; completed concrete basin near beach to be used for reservoir 60x20 feet, with offset making extreme end 12 feet wide; depth from 3 to 6

Fla., St. Petersburg-Hospital.-Samaritan Hospital will erect first wing of proposed \$20,000 hospital; brick; 30x90 feet; two sto-ries; almost fireproof; cost \$9000.

Ga., Atlanta-Home,-Home for Old Womer to include ward, laundry and number of bedroe

Ga., Atlanta-Home.—Trustees of Confederate Soldiers' Home, H. W. Bell, president, will receive bids until noon January 16 to creet brick veneer hospital building; plans and specifications at office of Dr. Amos Fex, Room 210 Temple Court Eldg.

Ga., Atlanta—Art Museum.—Atlanta Art Association, Mrs. Samuel M. Inman, presi-dent, plans to creet art museum in Piedmont Park; fireproof; marble or stone construc-

Ga., Augusta-Clubhouse.-Wheeler Heights Company, care Georgia Railroad Bank, plans to erect clubhouse, etc. (See "Land Devel-

Ky., Louisville-Car Shed.-Louisville Railway Co. will erect car shed; one s frame; cost \$5400.

La., Monroe—Sanitarium.—Franciscan Sis-ters, 318 Catalapa St., will have plans pre-pared by A. E. Barnes, Houston, Tex., for sanitarium; 150x50 feet; fireproof; three stocles; electric elevator; cost about \$50,000

Md., Baltimore—Clubhouse.—Cross Country Club, Charles Bachmann, president, 127 E. Fayette St., will erect clubhouse; probable cost \$15,000.

Miss., Jackson-Hospital.-Mississippi Bapitst Hospital plans to erect additional build-ing to cost \$50,000; Percy Walls, J. E. Nolle, Rev. W. A. Borum and others, trustees.

N. C., Kitty Hawk.—Aeroplane Hanger and Laboratory.—The Wright Company, Dayton, O., and New York, purchased 1000 acres of land for permanent testing ground for aeroplanes; will erect combination hangar and laboratory of concrete construction, and probably bungalow.

N. C., Raleigh—Car Barn.—Carolina Power & Light Co., Charles E. Johnson, president, has plans, it is reported, for proposed car

barn adjoining power plant. Okla., Muskogee-Hospital.-Oklahoma Baptist Hospital plans to enlarge nurses' train

S. C., Columbia - Club Home, - Columbia Federation of Women's Clubs is planning to erect building; is organizing Woman's Building Co. with capital stock of \$40,000.

S. C., Columbia—Sanatorium.—Dr. C. F. Williams purchased site of 70 acres three miles from Columbia and will erect tuberculosis sanatorium.

S. C., Landrum-Barns,-Chocolate Land Co., Charles A. Jefferies, president, Union S. C., will erect barns, etc. (See "Land De

Tex., Dallas-Undertaking,-George W. Lou-iermilk will erect building and chapel at Ervay and Corsicana Sts.

Ervay and Corsicana Sts.

Tex., Galveston.—Transfer Building.—Mrs.
Cora Gregory and Jesse M. Gibbons will
erect building for Gregory Transfer Co.;
two stories; brick; 60x100 feet; construction
to provide for erection of two additional
stories; ground floor for offices and storage
for automobiles and vehicles; second floor
for automobile storage and general automobile renair shop. bile repair shop.

Tex., Georgetown-Postoffice.-J. H. Robertson of Austin, Tex., will erect postoffice building and lease to Government.

Tex., Houston-Grandstand.-Otto Sens is reported to rebuild grandstand and bleachers

Address proposals to H. Seekamp. (Recent-

RAILWAY STATIONS

Ark., Conway.—St, Louis, Iron Mountain & Southern Railway Co., E. F. Mitchell, chief engineer, St. Louis, Mo., contemplates erect-ing brick passenger station; details not de-termined. (Recently noted.)

Ark., Helena.—St. Louis, Iron Mountain & Southern Railway Co., E. F. Mitcheil, chief engineer, St. Louis, Mo., will erect 28x120-foot passenger station; brick; plans by company's architect; da'e of opening bids not decided. (Previously noted.)

Ark., Prescott.—St. Louis, Iron Mountain & Southwestern Railroad, E. F. Mitchell, chief engineer, St. Louis, Mo., and Prescott & Northwestern Railroad, W. N. Bemis, president. Prescott, will erect proposed union sta

La., Baton Rouge,-Louisiana Railway & Navigation Co., Wm. Edembern, president Hibernia National Bank Bldg., New Orleans, La., will erect freight depot.

La., Baton Rouge.—Yazoo & Mississippi Valley Railway, A. S. Baldwin, chief engi-ieer, Chicago, Ill., is reported to double capacity of freight depot.

pacity of freight depot.

Okla., Tahlequah.—St. Louis & San Fran-cisco Railway Co., M. C. Byers, chief engi-neer of operation, Springfield, Mo., will soon begin erection of depot; 24x124 fewt; cost \$10,000. (Recently noted.)

Tex., Dallas.—Missouri, Kansas & Texas Railway, S. B. Fisher, consulting engineer, St. Louis, Mo., will erect freight depot.

Tex., Fort Worth,—Texas & Pacific Rail-ray, R. L. Holmes, division engineer, Marshall, Tex., will remodel passenger station, including enlargement of sheds and addition of three new tracks; improvements under of three new tracks; impupervision of Mr. Holmes.

W. Va., Mattewan.—Norfolk & Western Railway, C. S. Churchill, chief eng'neer, Roanoke, Va., will erect station.

Ala., York.—Sunter County Commissioners will receive blds until noon December 21 for erection of Sunter County High School; two stories; brick; plans and specifications at office of P. B. Pepper, York; architect, Frank Lockwood, Montgomery, Ala.; building to have seven rooms and auditorium; electric lighting; heating; cost \$10,000. (See "Machinery Wanted.")

"Machinery Wanted.")

Ark., Fayetteville,—University of Arkansas,
John N. Tillman, president, plans to erect
gymnasium, to include swimming pools, bowling alleys, basket-ball court, etc.; cost \$40,000; G. Jones, chairman of building committee, Newport, Ark. (Recently noted.)

Ark., Texarkana.—Texarkana Preparatory School, J. E. Conder, owner and principal, plans to rebuild burned school. (Recently reported burned at loss of \$4000.)

Fia., Tampa.-Hillsborough County School Board plans to erect addition of brick wing to Hyde Park school and additional rooms to Michigan Avenue School. Pavo.—Pavo Academy will probably d school reported burned at loss of Ca

Ga., Waleska.—Reinhardt College will ex-pend \$39,000 to rebuild portion of burned col-lege buildings; 50x120 feet; fireproof con-struction; steam heat; electric lighting; W. S. Witham, member of committee, may be addressed. (Recently noted.)

Ky., Hazard.—City voted bond issue to rect school. Address The Mayor.

I.a., Natchitoches.—Natchitoches parish school directors will erect model school; elec-tric lighting; cost \$100,000; architect not se-

Md., Baltimore.—Central committee, composed of following members, has been appointed to have charge of erection of proposed building for Johns Hopkins University at Homewood; R. Brent Keyser, chairman, 912 Keyser Bidg.; E. B. Matthews, secretary; Ira Remsen, John Glenn, Blanchard Randall, Miles White, W. W. Willoughby, W. J. A. Bliss, Murray P. Brush, Theodore E. Straus, J. Pembroke Thom, Howard Bactjer and Edward H. Bouton. (Previously noted.)
Md. Baltimore.—City is having plans pre-Md. Baltimore.—Central committee, com

Md., Baltimore.—City is having plans pre-pared by J. Appleton Wilson, Law Bidg., Baltimore, for addition to school No. 67 at old Frederick Rd. and Fairview Ave.; accommodations for 50 pupils; classrooms about Tex., Rockport.—Gulf Coast Immigration Co., A. L. Matlock, president, Rockport, and Bedell Bldg., San Antonio, Tex., contemplates erection of clubhouse on Capano Bay. Tex., Yoakum—Stable.—Yoakum Horse & Mule Co. will open bids in a few days to erect brick stable; 100x120 feet; cost \$10,000. Old Frederick Rd. and Fairview Ave. : accom-

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000; Nos. 101 and 111 schools, site and building, \$120,000; No. 61 school, site and addition, \$75,000; No. 34 school, addition, \$25,000; Benjamin B. Owens, 1095 Continental Bidg., supervisor of school buildings.

Miss., Brooklyn. — Forrest County School Board, Rev. E. J. Currie, president, Hattiesburg, Miss., selected Brooklyn as site for proposed Agricultural High School.

Miss., Brookhaven.—Mayor and Aldermen will receive bids until 7.39 P. M. December 28 to creet two-story annex and improvements to white public school; certified check for \$150; blank forms of proposals, drawing and specifications at office of E. McCormick, architect. Brookhaven, or may be had on deposit of \$5; R. L. Davis, City Clerk.

Miss., Jackson.—Board of Education is having plans prepared by W. K. Kettringham, Jackson, for two proposed school buildings.

Miss., Natchez.—Mayor and Board of Aldermen contemplate expending \$40,000 to erect proposed Carpenter School No. 2.

Mo., Trenton.—Christian University, Lewis S. Cupp, chancellor, will erect \$25,000 dormitory and \$25,000 gymnasium.

N. C., Charlotte.—City will receive bids until January 16 to erect five schools in First and Fourth wards, Seviersville, Elizabeth and North Charlotte; cost about \$75,-060; completion by August 1; plans by Hunter & Gordon and Hook & Rogers, both of Charlotte; is also planning to receive separate bids (date not set) for \$10,000 worth of repairs to South School; has plans by Hunter & Gordon, Charlotte, for Elizabeth Heights school, to cost \$10,000. (Recently noted.)

N. C., Kinston.—Dr. Ira M. Hardy of Washington, N. C., secretary of North Carolina School for Feeble-Minded, will receive bids until 5 P. M. January 12 for erection of three buildings at the school near Kinston.

N. C., Mount Pleasant.—Mt. Amoena Seminary, J. H. C. Fisher, president, will erect brick school building to replace structure reported burned.

N. C., North Wilkesboro.—Town Commissioners contemplate calling election to vete on bond issue to erect school.

N. C., Smithfield.—City is having plans prepared by Sayre & Baldwin, Anderson, S. C., for school building; two stories and basement; 60x110 feet; fan system of heating and ventilating; slate blackboards; slate roof; cost \$20,000 to \$25,000.

Okla., Muskogee.—Oklahoma Baptist Hospital plans to enlarge nurses' training school.

S. C., Dillon.—City is having plans prepared by Sayre & Baldwin, Anderson, S. C., for school building; two stories and basement; 70x139 feet; brick; fan system of heating and ventilating; electric lighting; slate blackboards; cost \$23,000.

S. C., Rock Hill.—City defeated \$50,000 bond issue for school improvements; C. K. Chreitzberg, secretary-treasurer of Rock Hill school district. (Recently noted.)

S. C., Rock Hill.—Winthrop College will erect gymnasium; 250x80 feet; ordinary construction; steam heat; electric lighting; cost \$50,000; architect not selected. (Recently noted.)

Tex., Alta Loma.—Alta Loma Independent School District voted \$14,000 bond issue to erect school. Address District School Trustees.

Tex., Brunner.—Brunner Independent School District will vote December 20 on additional bond issue to erect more schools; W. P. Neuman, president of trustees.

Tex., Kingsville. — Texas-Mexican Industrial Institute, Rev. J. W. Skinner, president board of trustees, Brownsville, Tex., plans to expend \$35,000 for improvements to include erection of building and clearing 100 of 700 acres owned by institute; proposes to eventually expend \$75,000 to \$100,000 for improvements.

Tex., Tyler.—City voted \$50,000 bond issue to erect high school. Address The Mayor.

Va., Abingdon.—Martha Washington College, Rev. J. B. Ward, financial agent, is having plans prepared by Baumann Bros., Knoxville, Tenn., for dormitories; cost \$25,000. (Recently noted.)

W. Va., Gary.—Board of Education is considering election to vote on \$10,000 bond issue to erect high and graded school building; 12 classrooms and auditorium; fireproof construction; hot-water heat; electric lighting; cost \$35,000; architect not selected; C. G. Seaton, secretary of Board of Education.

W. Va., Union.—Union Independent School District will not vote on bond issue recently reported; W. H. Sydnor, secretary of Board of Education.

STORES

Ala., Birmingham.—M. A. Hirns will erect building at 25th St. and Twelfth Ave.; two stories; frame; cost \$3000.

Ala., Fort Deposit.—J. E. Holmes will erect two store and office buildings; concrete construction.

Ala., Mobile.—Independent Order of Odd Fellows has plans for remodeling Temperance Hall for stores and lodge purposes. (See "Association and Fraternal.")

D. C., Washington.—Hecht's, 513-15-17 7th St. N. W., purchased building at 519 7th St. and will remodel and use in connection with present structure, adding 33 per cent. floor space.

Fla., Jacksonville.—Duval Trust Co. will erect two-story frame building on Bismarck 8t. between Forest St. and McCoys Creek. Fla., Jacksonville.—J. E. Ellenburg will

Fla., Jacksonville.—J. E. Ellenburg will erect building on Myra St. near Acosta St.; two stories; frame.

Fla., Tampa.—A. J. Knight is having plans prepared by A. L. Shaw, Tampa, for business building; 211x76 feet; two stories; complement to structure now under construction; cost \$50,060; upper floor for apartments.

Ga., Atlanta.—J. H. Byerly will expend \$3000 for improvements to building at 71 E. 15th St.

Ga., Atlanta.—W. W. Alfriend will erect store at 242 Peachtree St.; cost \$16,000. Ga., Atlanta.—Hugh Richardson will erect

business building; four stories; brick; cost \$50,000. Ga., Atlanta.—D. Watkins will erect two-

Ga., Atlanta.—D. Watkins will erect twostory brick business building at 149-51 Auburn Ave.; cost \$3500.

burn Ave.; cost \$3500.

Ga., Gainesville.—M. C. Brown will erect
two or three-story building to replace structure reported burned; fireproof construction.

Ga., Gainesville.—Z. T. Castleberry will erect structure to replace structure reported burned; three stories.

Ky., Louisville. — Norton Company will erect additional story to business building at 4th and Market Sts.; cost \$12,000 to \$15,000. La., Baton Rouge.—Frank Ferracci will

erect business building; two stories; brick.

Md., Baltimore.—Max V. Mueller, 2190 Fleet
St., has plans by G. M. Mueller, 24 S. Washington St., Baltimore, for warehouse at
2124-26 Cambridge St.; two stories; brick;

Md., Baltimore.—Thomas M. Reese & Sons, Charles and Mulberry Sts., will make extensive improvements to building.

26x60 feet : cost \$3000.

Md., Baltimore.—Spedden Shipbullding Co., Boston St. and Kenwood Ave., will erect building adjoining present plant: three stories; brick: 25x75 feet; cost \$10,000; plans by company's architect; lower floor for store, second floor for offices, and third floor for storage.

Mo., Kansas City.-W. W. Goodwin will erect store and apartment building at 1400-2-4 E. 31st St.; cost \$8000.

Mo., Kansas City.—Long Bros.' Grocery Co., 515 Main St., will probably rebuild store reported burned at loss of \$60,000.

Mo., St. Louis.-William Crossmeyer will erect store and dwelling. (See "Dwellings.")

N. C., Hendersonville.—Dr. A. H. Morey is having plans prepared by H. C. Myers, Hendersonville for business building recently noted; two stories; ordinary construction; steam heat; cost \$10,000; date of epening bids not set. (See "Machinery Wanted.")

Okla., Skiatook.—C. F. Rogers is having plans prepared for rebuilding business building; 50x50 feet; one story; ordinary construction; brick; fireproof partitions; tar and gravel roof; stoves; gas lighting; cost \$3000. (Recently reported burned.)

Tex., Center.—J. W. Hurst will open bids in early spring to creet business building; 50x90 feet; fireproof construction; cost \$3900. (Recently noted.)

Tex., Dallas.—H. L. Edwards is reported to erect business building; two stories and basement: 50x100 feet.

Tex., Dallas.—J. Howard Ardrey has plans by Lang & Witchell, Dallas, for business building at Pacific Ave. and N. Ervay St.; three stories; cost \$30,000.

Tex., Dallas.-A. A. Jackson will erect cold-storage and business building.

Tex., Dallas.—C. C. Slaughter will erect business building; two stories; brick; 80x125 feet; cost \$20,000.

Tex., Georgetown.—J. H. Robertson will erect four brick buildings; one of which, 20x100 feet, will be occupied as postoffice; cost about \$12,000 to \$15,000.

Tex., Houston.—Otto Hess has plans by Gulf Coast Construction Co., 906 Scanlan Bldg., Huston, for store and dwelling in Park Pl.

Va., Hot Springs.—Virginia Hot Springs' Company has plans by H. C. Allen, Hot Springs, for store building; 45x275 feet; fireproof construction.

Tex., Lubock.—Lubbock Mercantile Co. has plans by Henry C. Mount for business building; 75x115 feet; steam heat; electric lighting; electric hand elevator; bids opened and contract awarded December 9; cost about \$10,000.

Tex., Lubbock.—J. E. Vieker, J. C. Cope and G. L. Morrow have plans by Henry Mount, Lubbock, for store building; 50x115 feet; ordinary construction; steam heat; electric lighting; cost \$7000. (Recently noted.)

Tex., Lubbock.—Lubbock Mercantile Co. will expend \$12,000 to erect mercantile building; 75x115 feet; mill construction; steam heat; electric lighting; freight elevator; plans recently noted prepared by Henry Mount, Lubbock. (See "Machinery Wanted.")

Tex., Mercedes.—W. H. Baker will erect business building; one story; brick; 50x60 feet.

Tex., San Saba.—Estate of Joseph S. Clark will receive bids until 2 P. M. December 18 for erection of store and office building. (See "Bank and Offices.")

Tex., St. Jo.—Scott Bros. will rebuild business building; 30x90 feet and 45x75 feet; fireproof and ordinary construction; will not creet until spring. (Recently noted burned.)

Tex., Alvin.—John A. Owen will erect business building; two stories; brick.

Va., Portsmouth.—Dr. Charles T. Parrish opened bids for erection of two stores at High and Effingham Sts.; two stories and baleony; R. H. Richardson & Son, Seaboard Bank Bldg., Norfolk, Va., are lowest bidders at \$18.447; structures 81x113 feet; steam heat; electric lighting; plans by John Kevan Peebles, Norfolk, Va.

bles, Norfolk, Va.
Va., Richmond.—Mrs. Regina Nelson will
erect store building; three stories; brick.

W. Va., New Martinsville,—Joseph Shiben

will erect business building; three stories; brick.

W. Va., Williamson.—Wells Goodykoontz is reported to erect business block.

THEATERS

D. C., Washington.—Joseph D. Coblentz, 1542 N. Capitol St., will expend \$3200 to remodel theater at 5 Q St. N. W.

Md., Baltimore.—Joseph Brodie, 1118 Light St., will erect moving-picture theater at 1118 Light St.; 26x58x168 feet; metal ceilings; brick and concrete walls; seating capacity 800; cost \$20,000.

Md., Baltimore.—F. W. Schanze, 1601 Pennsylvania Ave., will erect moving-picture parlor; 33 feet 8 inches by 140 feet; reinforced concrete. (Recently incompletely noted.)

Tex., Palestine.—Sims Golley will erect the ater.

W. Va., Morgantown.—Hippodrome Theater Co. incorporated with \$5000 capital stock by William A. Ream, Stanley L. Nelson and others.

WAREHOUSES

Ala., Foley.—Otto Zipperer contemplates, it is reported, erection of warehouse and broom factory.

D. C., Washington.—Samuel J. Prescott Co., Inc., 814 13th St. N. W., will erect five warehouses and stable on W St., between 12th and 14th Sts. N. W.

Ga., Atlanta.—E. T. Luckie is reported as to erect building at 131 Central Ave.; four stories; mill construction; for either light nanufacturing or wholesale purposes.

Md., Baltimore.—Spedden Shipbuilding Co., Boston St. and Kenwood Ave., will erect store, office and warehouse building.

Okla., Muskogee.—National Biscuit Co., main office New York, will, it is reported erect distributing station.

Va., Richmond.—Reuben Burton will erect warehouse; four stories; brick and concrete; cost \$18,000.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Tex., San Antonio.—E. Y. White Company awarded contract to G. C. Simpson Company, Moore Bidg., San Antonio, to erect proposed apartment-house; 30 rooms.

ASSOCIATION AND FRATERNAL

Md., Lonaconing.—Silver Wave Castle No. 1, Knights of Golden Chain, awarded contract to Marshall Bros., Lonaconing, to erect lodge building and storeroom; 33x60 feet; cost \$2700. (See "Machinery Wanted.")

Tex., Alpine.—Ancient Free and Accepted Masons awarded contract to John M. Webb, Alpine, to erect lodge building; cost \$13,000. (Recently noted.)

(Recently noted.)

Tex., Victoria.—Mrs. L. B. Randell, San Antonio, Tex., awarded contract to Bailey Mills Company, Victoria, to erect building; lower floor for garage for Citizens' Auto Co.; upper floor for Knights of Columbus lodge rooms; two stories; brick; 32x85 feet; cost \$7000

BANK AND OFFICE

Ala., Bay Minette.—J. A. Ertzinger & Son awarded contract to Nihart & Beasley, Bay Minette, to creet office building; cement block construction.

D. C., Washington.—Frank A. Munsey Co. awarded contract to George A. Fuller Co., Munsey Bidg., Washington, D. C., to make alterations to present building; fireproof construction; plans by McKim, Mead & White, 180 Fifth Ave., New York. (Recently

S. C., Walterboro. — Farmers and Merchants' Bank awarded contract to J. H. Clayton, Atlanta, Ga., to erect bank building at Main and Bridge Sts.; plans by J. D. Newcomer, Charleston, S. C.

Tex., Alice.—State Bank and William Adams awarded contract to Gray & Nelson, Victoria, Tex., to erect bank and office building; cost \$50,000; plans by Jules Leftland, Victoria, Tex. (Previously noted.)

CHURCHES

Ark., Hot Springs.—First Baptist Church awarded contract to F. Fredericks, Hot Springs, to erect proposed edifice; two stories; fireproof brick; cost \$17,000.

N. C., Charlotte.—Villa Heights Associated Reformed Church, Rev. E. G. Carson, pastor, awarded contract to E. M. Carter, Charlotte, to erect edifice to replace damaged structure; frame; solid brick foundation; will contain main auditorium, Sunday-school rooms, pastor's study, two classrooms, etc.; 39x33 feet; electric lights; cost about \$4006; plans by F. Bonfoey, Charlotte. (Previously noted.)

CITY AND COUNTY

Ga., Macon—Stockade.—City has plans by and awarded contract to J. W. Holley, Macon, to erect additional story to stockade; brick; ordinary construction; cost \$4000. (Recently noted.)

COURTHOUSES

Fla., Inverness.—Citrus County Commissioners awarded contract to Read-Parker Construction Co., Tampa, Fla., to erect fire-proof courthouse recently noted; plans by Willis B. Biggers, Tampa. (See "Machinery Wanted.")

DWELLINGS

Ala., Aliceville.—T. H. Sanders awarded contract to W. M. Shelley to erect dwelling; nine rooms; mill construction; cost \$3000. (Recently noted.)

D. C., Washington.—J. A. Sloan awarded contract to Sloan Construction Co., 19 K St. N. E., Washington, to erect seven two-story dwellings; ordinary construction; hot-water heat; gas lighting; cement sidewalks; cost \$15,500; plans by William J. Palmer, 13 Warder Bidg., 9th and F Sts. N. W., Washington. (See "Machinery Wanted.")

Fla., Jacksonville.—George F. Bensel, 401 Law Exchange, awarded contract to N. L. Snelson to erect dwelling, garage and servants' quarters; brick veneer; tile roof; hotwater heat; electric lighting; cost \$17,500; plans by W. B. Talley. (Recently noted.)

Md., Baltimore.—George II. Lewis, Gwynn Oak Ave, near Milford Ave., awarded contract to Edward G. Turner, Batemen Ave. near Garrison Ave., Baltimore, to erect cottage; one and a half storles; frame.

Md., Baltimore.—Ferdinand Hertel, Beech and Norwood Aves., awarded contract to Emil J. Klemm, Belleville Ave. near Milford Ave., Baltimore, to erect cottage on Beech Ave. near Gwynn Oak Ave.; two stories; frame.

Md., Baltimore.—W. H. Logue, Jr., Broadway and Barnes St., awarded contract to James F. Farley & Son, 401 McCulloh St., Baltimore, to remodel store and dwelling; brick; glass front; cost \$5000; plans by James F. Farley, Jr., 401 McCulloh St., Baltimer.

Md., Baltimore.—William A. Beach, 1702 N. Caroline St., awarded contract to Murray &

Haines, 1800 Ellamont St., Baltimore, to erect cottage on Duvall Ave.; one and a half stories; 30x45 feet; frame; slate roof; plans by Henry J. Tinley, 314 N. Charles St., Baltimore. (Recently noted.)

Md., Baltimore.-Francis H. Wyatt, Allen-

Md., Baltimore.—Francis H. Wyatt, Allendale Ave. near Duvall Ave., awarded contract to Murray & Haines, 1800 Ellamont St., Baltimore, to erect bungalow on Chelsea Ave. between Duvall and Woodland Aves.; one and a half stories; overhanging slate roof; concrete foundation; 30x47 feet; plans by M. H. Murray, 1800 Ellamont St., Baltimore.

Md. Baltimore.—Chris F. Kurrle, 53 Taylor St. awarded contract to B. W. & E. Minor. 224 W. Pratt St., Baltimore, to erect two dwellings on Taylor St.; 15x56 feet; two stories: brick; slag roofs; fron cornlees; furnace heat; cost \$4200; plans by B. W. Minor, 224 W. Pratt St., Baltimore.

Md., Baltimore.—Dr. S. A. Dodds awarded contract to Augustus Stohr, 2851 Pennsylva-nia Ave., Baltimore, to erect cottage at Clif-ton Ave. and 9th St., Welbrook; two and a

ton average and state of the state of the state heat; cost \$6500; plans by Walter M. Gieske, Gunther Bidg., Baltimore. (Previously

ries; frame.

Md., Catonsville.—Laurence J. Rogan, 525
8. Monroe St., awarded contract to C. C.
Rumpf & Son, Halethorpe, Md., to erect cottage on Wilkins Ave. near Valley Rd.; two
and a half stories; frame; also has stable
under construction.

Md., Catonsville. — William O. Pierson
awarded contract to John H. Gerwig, Catonswills, to except cottage on Edwardson Ave-

awarded contract to John H. Gerwig, Catons-ville, to erect cottage on Edmondson Ave. near Beechwood Ave.; two and a half sto-ries; frame; electric lights; hot-air heat; slate roof; cost \$5500; plans by Walter M. Gleske, 66 Gunther Bldg., Baltimore, Md.

Md., Cool Springs (not a postoffice).—E. C. Clark of John Hancock Mutual Life Insur-

Clark of John Hancock Muthal Life Insur-ance Co., 1941-51 Calvert Bldg., Baltimore, Md., will erect cottage at Cool Spring, on Severn River; probably two and a half sto-ries; frame and stucco; 50x43 fect; mill con-

struction; hot-water heat; gas lighting; cost \$10,000; plans by Glidden & Friz, Glean Bidg., Baltimore; contract awarded to Charles L. Kline, Baltimore county, Maryland; all other

Md., Roland Park .- J. Wilson Stehl, 2009

Md., Roland Fark.—J. Wisson Stein, 2009 Euraw Pl., Baltimore, awarded contract to J. Henry Smith, 1426 Light St., Baltimore, to erect dwelling; two and a half stories; brick and frame; concrete foundation; shingle roof; plans by H. L. Wersling, 223 N. Charles St., Baltimore, Md. (Recently noted.)

Mo., Kansas City.—St. Aloysius Church, Rev. M. P. Dowling, pastor, 1107 Prospect Ave., awarded contract to Joseph Hempfling, 715 Wheeling Ave., Kansas City, to erect par-sonage: 40x00 feet; ordinary construction; steam heat; gas and electric lighting; cost \$2000; plans by John Hempfling. (Recently pasted).

Okla.. Oklahoma City. — Mike Donnelly awarded contract to Erick Westman to erect dwelling; 26x,40 feet; ordinary construction; bot-air heat; electric lighting; cost \$3000; plans by F. E. Fagerguist, 719 Insurance Bidg., Oklahoma City. (Recently noted.)

Okla. Oklahoma City.—Oscar Fisher awarded contract to O. C. Johns to erect dwelling;

3x15 feet; ordinary construction; hot-air
beat; electric lighting; cost \$3500; plans by
F. E. Fagerguist, 719 Insurance Bidg., Okla-

S. C., Greenville,-Thomas Madler awarded

contract to Mrs. A. E. Cobb, Greenville, to erect two two-story residences; cost \$2500

contracts let.

Catonsville,-Arthur C. Glanville, 20 X. Fulton Avc., Baltimore, Md., awarded contract to H. Erdman to erect cottage on Laurel Avc. near Edmondson Avc.; two sto-

e stories.

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Coblentz, 1118 Light

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K St. story water ; cost er, 13 Wash-

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homa City. (Recently noted.)

Tex., Hillsboro.—W. F. Sims awarded contract to Condit & King, Hillsboro, to erect proposed dwellings; three; one and a half stories; mill construction; electric lighting; cost \$1000 each; plans by J. O. Galbralth,

Tex., Houston.—C. J. McCarty let contract to creet residence in Park Pl.; cost \$9000; plans by Gulf Coast Construction Co., 906 Scanlan Bidg., Houston.

Va., Norfolk.—C. C. Barclay awarded contract to Virginia Realty & Building Co., Norfolk, to erect two frame residences; cost folk, \$2350

Va., Norfolk.-J. R. Ives will expend \$6500 to erect dwelling; 26x52 feet; brick; mill construction; plans by S. B. Chandler, Norfolk, Va.; contract recently noted awarded to R. B. Darden, Norfolk.

GOVERNMENT AND STATE

Tex., Mineral Wells — Federal Building. — Treasury Department, James Knox Taylor,

supervising architect, Washington, D. C., awarded contract to John Barden, Fort Worth, Tex., to erect Federal building; cost about \$60,000. (Previously noted.) Tex., San Antonio.—Board of Managers of

Southwest Texas Asylum awarded contract to Standard Construction Co., Houston, Tex., to erect hospital building; two stories; fireproof; tile floors and partitions; 28 slugle rooms and two wards to accommodate 60 patients; cost about \$45,000. (Previously

HOTELS

Ga., Augusta.—Hampton Terrace, C. A. Wood of Holland House, New York, manager, will erect 25 additional rooms to hotel; contract awarded.

S. C., Greenville.-Washington Street Hotel S. C., Greenville.—Washington Street Hotel
Co. organized with \$20,000 capital stock; W.
A. Wallace, president; J. G. Cunningham,
vice-president; P. C. Munn, secretary; W.
M. Jordan, treasurer; awarded contract to
W. M. Jordan, Greenville, to erect hotel at
Washington and Richardson Sts.; seven stories; 90 rooms; tapestry brick; 41x83 feet;
first floor of art marble; concrete foundation laid; steam heat; electric passenger
elevator; cost \$45,000; plans by F. H. & J. G.
Cunningham, Greenville. (Recently more
fully detailed.) fully detailed)

MISCELLANEOUS

Ky., Maysville—Hospital.—May V. Wilson Hospital awarded contract to Lane & Easton, Maysville, to crect addition and remodel hospital; addition to be one story; con-crete and brick; 24x32 feet; operating-room 15x16 feet wainscoted four feet high with nonlaxio feet wanscored four feetings with some absorbent marble; stainless concrete floors; old portion of structure to be divided inte eight rooms, halls and corridors; marble floors with felt between.

floors with felt between.

Md., Baltimore—Nurses' Home.—Hebrew
Hospital and Asylum, East Monument St.,
awarded contract to George Bunnecke &
Sons, 305 St. Paul St., Baltimore, to erect
building on Madison St. near Broadway,
brick; three stories; 44x100 feet; plans by
Parker, Thomas & Rice, 1109-11 Union Trust
Bldg., Baltimore. (Previously noted.)

RAILWAY STATIONS

Ga., Newnan.—Central of Georgia Rallway Co., C. K. Lawrence, chief engineer, Savan-nah, Ga., and Atlanta & West Point Rallway Co., C. A. Wickersham, president, Atlanta, Ga., will expend \$25,000 to erect union passenger station: ordinary construction; tract (recently noted) awarded to A Walkup, Richmond, Va.

W. Va., Kenova.—Pettijohn & Co., Lynchburg, Va., have contract to enlarge and improve union depot.

SCHOOLS

Mo., St. Louis.—Board of Education awarded contract at \$4364.25 to Daniel Evans Construction Co., St. Louis, to repair schools.

S. C., Greenville.—Trustees of City Schools awarded contracts for erection of addition to Oaklawn School as follows: Construction to Jerdan-Munn Construction Co.; plumbing to Barr Hardware Co.; heating to Poe Hardware & Supply Co., all of Greenville; will remove Ware St. side of structure and erect two-story addition containing auditorium and three classrooms, install additional en-trances and staircases, etc.; cost \$10,127.

STORES

Ark., Little Rock.-Fletcher Estate award-Ark., Little Rock.—Fletcher Estate awarded contract to Oklahoma City Construction
Co., Oklahoma City, Okla., to erect department store for Gus Blass & Co.; seven stories
and full basement; fireproof mushroom censtruction; glazed terra-cotta and iight
pressed brick; elevators enclosed in wireglass casings; sprinkler system; cost about
\$200,000; plans by George R. Mann, Little
Rock. (Previously noted.)

Mo., St. Louis.—Board of Education awarded contract at \$390 to Fred Boecke & Son, St. Louis, to repair store at \$05-07 Locust St., recently leased by Denison Tag Co.

N. C., Salisbury.—Dr. L. H. Clement awarded contract to D. K. Cecil, Lexington, N. C., for improvements to old National Hotel building; will install plate-glass front, extend room back about 100 feet, erect two-story extension 35 feet wide; two stories; brick; two display-rooms 100x35 feet and 14 smaller ones.

smaller ones.

Okla., Muskogee.—L. A. Roy of Roy Clothing Co., Main*St., will erect store building; one story and galleries; two-story appearance; 1200 square feet glass in front; 50x114 feet; brick; awarded contract to Rooney &

to erect two stores; two stories; 30x100 feet; steam heat; plans by J. D. Newcomer, Charleston, S. C.

Tex., Floresville.-B. F. Ballard awarded contract to erect bank building; brick con-

Tex., Mabank.—Foster Drug Co. has plans by and awarded contract to George Will-lams, Kaufman, Tex., to erect drug store; 25x80 feet; ordinary construction; stoves; gasoline lighting; cost \$25,000. (Recently

WAREHOUSES

Fla., Miami-McCreary Bros. awarded con-tract to F. G. Erfert, Miami, to erect ware-house: construction of 10-inch concrete blocks.

Fla., Tallahassee. - Capital City Grocery

Co. awarded contract to E. B. Dyer, Talla-

hassee, to erect warehouse.

Fla., Tampa.—Mallory Steamship Co., H.
H. Raymond, general manager, Pier 36 North
River, New York city, awarded contract to
W. P. Richardson & Co., Tampa, to erect
warehouse; wood and corrugated iron;
gravel roof; 98x238 feet; cost \$12,000. (Recently noted.)

Md., Baltimore.—Estate of William A. Dummington awarded contract to G. Walter Tovel, 309 Dolphin St., Baltimore, to erect addition to warehouse at III S. Charles St.; one : brick

Md., Cumberland.—N. & G. Taylor Com-pany, Mariner & Merchant Bidg., Philadel-phia, Pa., awarded contract to erect ware-house adjoining finishing plant (See Metal-working Plants.")

RAILROAD CONSTRUCTION

Ala., Boaz.-W. W. Shortridge of Albert-ville, Ala., vice-president and secretary of the Birmingham & Chattanooga Rairroad Co. the Birmingham & Chattanooga Raliroad Co., just incorporated to build from Birmingham, Ala., to Chattanooga, Tenn., about 135 miles, says that the company is not prepared to give details of its plans now. J. M. Spradlin of Boaz, Ala., is president, and D. J. Spradlin is another director. A press report quotes Mr. Shortridge as saying it is expected to begin survey in about 60 days.

Ala., Cullman.—The Cullman Coal & Coke Co. proposes, it is said, so build an extension of its railroad from Ryan's Creek to Julianna, Ala., 18 miles. J. W. Jones, Cullman, Ala., is chief engineer.

Fla., Gainesville.-The Tampa & Jacksonville Railway is contemprating the construc-tion next year of an extension from Blichton to Ocala, Fla., about 15 miles. A. L. Glass, Gainesville, Fla., is general manager.

Fla., Green Cove Springs.—The Dowling-Shands Lumber Co. says that the line it is building is only a logging railroad, with 45-pound rail; not 70 pound, as stated in a

press report.

Fla., Tampa.—Hiram McEiroy. chief engineer of the Atlantic, Okeechobee & Gulf Railway Co., is quoted as saying that 90 miles of survey have been completed from Tampa via Mulberry and Lakeland to Fort Meade, and that the engineers are pushing work on to Arcadia and Fort Lauderdale. Directors have just been elected thus: H. C. Ferrior, Robert L. Riley, E. E. West, H. H. West, H. W. Raiford, T. P. Bell, D. L. Simmons, E. L. Highee, W. H. Marshall, Francis B. McGarry and W. S. Jordan.

Ga., Atlanta.—James W. Maddox has the

Ga., Atlanta.—James W. Maddox has the contract to grade the railroad spur to the Intrenchment Creek disposal plant. Work

Ga., Cordele.—The report that the Atlanta, Birmingham & Atlantic Railway would build more yard tracks at Cordele is officially de-

Ga., Ocilla.-R. S. Talimadge of Nashville. Ga., Ocilla.—R. S. Tallmadge of Nashville, Ga., and E. E. Bailey of Fitzgerald, Ga., are engaged upon the contract for the extension of the Ocilla Southern Raliroad from Abba to Rochelle, Ga., 15 miles. J. A. J. Hender-son of Ocilla is president and general menager.

ager.
Ga., Brooklet.—The Shearwood Railway, says a report, will apply for charter amendment to build an extension to Claxton, Egypt and Clyo, Ga., about 45 miles; incorporators, John A. Calhoun of Philadelphia, M. J. O'Byrne and John E. Foy of Savannah, George M. Brinson of Springfield, Ga., and J. H. Shearouse, T. R. Bryan, P. C. Waters, George E. Wilson, H. M. Robertson, J. A. Warnock, John I. Lane, T. H. Waters, J. H. McElveen, Wayne Parrish, D. L. Alderman, C. C. DeLoach and J. C. Denmark of Bullock county, Georgia. ck county. Georgia.

Ga., Hawkinsville.—E. M. Beeham of Hawkinsville and J. F. Lamb of Thomasville, Ga., have the contract for extending the Hawkinsville & Western Railway from Grovania to Perry, Ga., eight miles, and work is in prog-ress. J. J. Gaillard, Hawkinsville, Ga., is chief engineer.

Ga., Macon.—Referring to a recent press re-port, C. K. Lawrence, chief engineer of the Central of Georgia Railway, says that there are no improvements to be made at present at the Macon terminals.

smaller ones.

Okla., Muskogee.—L. A. Roy of Rey Clothing Co., Main*8t., will erect store building; one story and galleries; two-story appearance; 1200 square feet glass in front; 50x114 feet; brick; awarded contract to Rooney & Culp, Muskogee.

S. C., Walterboro.—R. H. Wichman awarded contract to J. H. Clayton, Atlanta, Ga.,

bridges, one over the Cumberland and the other over the Tennessee River, will be neces-sary. H. C. Rhodes of Paducah is president. Major W. A. Calhoun of Buffalo, N. Y., is

Ky., Whitesburg.—The Lexington & Eastern Railway, which is being extended by the Louisville & Nashville Railroad, is reported surveying for a spur three miles long from Boone's Fork up the Kentucky River to Moore's Branch. Other projected spurs are up Potter's Fork and Yount's Fork of Boone Creek. J. E. Willoughby, Louisville, Ky., is chief engineer of construction.

La., Baton Rouge.—The Louislana Railway k Navigation Co. has plans to build a belt lne. C. Ellerbe is assistant to the president it Shreveport, La.

at Shreveport, La.

La., Jena.—The Louisiana & Arkansas Rallway, which is building an extension of 2.3½ miles from Jena to Jonesville, is surveying for a further extension from Jonesville to Vidalia, La., about 24½ miles. On the present work M. Tansey of Jena is the general contractor. The Union Bridge & Construction Co. of Kansas City is doing the steel work. W. H. Vance, Stamps, Ark., is engi-

La., New Orleans.—A. S. Greig, vice-president of the St. Louis & San Francisco Railroad, St. Louis, says that the route is not definitely determined for the proposed line defaultely determined for the proposed line from Port Barre, La., to Memphis, Tenu., about 325 miles, but it will be 3 per cent. maximum grade. It is not decided when bids will be asked for construction. (See Louisi-ana, Arkansas & Memphis Railway in Manu-facturers Record, December 7.)

La., New Iberia.-A director in the South-La., New Iberla.—A director in the South-western Traction & Power Co., of which F. W. Crosby of New Iberla is president, is quoted saying that the Chapman Construc-tion Co. of St. Louis has the contract to build its proposed railway from Berwick via Jeanerette and New Iberla to Lafayette, La., about 60 miles. Henry K. Johnson of Vicks-burg is president of the construction com-pany. After building this line 1: is proposed to construct another from Ablertille to Lo. pany. After building this line i; is proposed to construct another from Abbeville to Le-reauville, about 25 miles, crossing the main line at or near New Iberia; headquarters in the Godehaux Building, New Orleans; directors, F. W. Crosby, president; Lawrence Blum, vice-president; R. E. L. C. Ries, secretary-treasurer; Leon Wolf, Irving Saal, Aiex. Hyman, Jules Dreyfus and A. G. Barrow.

La., St. Martinville.—The Police Jury and the Council are reported to have appropri-ated \$1500 to survey for the proposed rail-road from St. Martinville to Eunice and Oakdale, La., about 70 miles. The Board Trade may be able to give information. The Board of

La., Vivian,—Survey is reported begun for the proposed railroad from the Red River via Vivian into Texas by M. R. Cravens and

Md., Baltimore. — The Western Maryland Railway, it is understood, contemplates re-placing about 15 bridges on its old main line with modern steel and concrete structures. H. R. Pratt, Baltimore, is chief engineer.

Md., Baltimore.—The Baltimore & Ohio Raliroad Co. has offered to build without cost to the city a railroad through the old Quarantine property near Baltimore, thus making the ground available for manufacturing sites. F. L. Stuart is chief engineer at Baltimore.

Md., Towson.—F. J. Begg, chief engineer, says that it is not intended to extent the Towson & Cockeysville Electric Railway beyond the latter point. This denies a recent

Miss., Jackson.-The New Orleans Great Northern Railway, says a report, is survey-ing for a line from Nogan to Jackson, Miss., about 6½ miles. C. R. Howard, Bogalusa,

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

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Miss., Meridian.—The Meridian & Deepwater Raliway Co. has filed a mortgage to secure \$1.200,000 of 5 per cent. bonds for the construction of its line from Meridian, Miss., to Myrtlewood, Ala., 47 miles. Construction is proceeding. S. A. Neville, Meridian, Miss., is president.

Mo., St. Louis.—The Grandview Railroad Co. has been chartered to build a line 19 miles long from the southern limits of St. Louis to a point near the Oilve St. road. The old Monte Sano Railway is said to have been acquired. Stockholders and directors are Frederick Herkert, Sr., president of the St. Louis Trunk Hardware Co.; Frederick Herkert, Jr., H. E. White, George H. Martin and N. S. Wood; capital \$200,000.

N. C., Greenshoro.—Reported that all the townships in Guilford county which voted on the hond issue to aid the extension of the Randolph & Cumberland Railroad went against the proposition excepting High Point, which went overwhelmingly in favor of issuing \$100,000 of securities.

N. C., Mt. Alry.—The Mt. Alry & Eastern Railway has made preliminary survey from Mt. Alry to Philpot, Va., about 60 miles. J. T. Heare, Mt. Alry, N. C., is superintendent.

Okla., Davis.—C. C. Ricker, secretary of the Davis, Turner Falls & Southwestern Railroad Co., Davis, Okla., says that the company's forces will build its line from Davis to Turner Falls, 12 miles, including a bridge over the Washita River. E. A. Hill of Davis is president, and George B. Vanghan of St. Louis, Mo., vice-president and general manager.

Okla., McAlester.—With reference to the report that the Missouri, Kansas & Texas Bailway had appropriated \$1,400,000 for terminals at McAlester, S. B. Fisher, chief engineer, St. Louis, says that nothing has yet been decided about them.

Okla., Oklahoma City.—E. A. Wagner, president of the Oklahoma & Northwestern Railway Co., Oklahoma City, is reported saying that final survey is completed from Woodward to Watonga, Okla., 74 miles. Will include a bridge across the North Canadian River near Eagle City.

Okla., Oklahoma City.—The last stake of the survey for the extension of the Missouri, Oklahoma & Gulf Railroad from Henryetta to Oklahoma City, 102 miles, has been driven, and J. H. Johnston, representing the company, is quoted as saying that construction will probably begin soon. J. J. Harrison is chief engineer at Muskogee, Okla.

8. C., Greenville.—The Greenville, Greenwood & Augusta Railway Co., capital \$1,20,600, has amended its charter to permit of some slight changes in its projected route if desired. Main line will be from Greenville through Greenwood to Hamburg, S. C., opposite Augusta, Ga., about 100 miles. Incorporators include Henry briggs, Frank Hammond, J. M. Geer, J. T. Blassingame and W. A. McBrayer of Greenville, S. C.

Tenn., Centreville.—The Hickman County Commercial Club has appointed J. B. Waiker, George Stanfill and D. W. Flowers to prepare plans to secure the construction of a rail-road from Leatherwood, a terminal of the Middle Tennessee Railroad, via Little Lot, Centreville and Linden to Perryville, Tenn. about 50 miles. It is proposed to organize a local company. Robert H. Clagett is secretary of the club.

Tenn., Chattanooga.— The Chattanooga. Rome & Atlanta Interurban Railway Co. has organized, and it is stated that construction between Chattanooga and Fort Oglethorpe will begin as soon as right of way and franchises can be obtained, it being desired to operate that much of the route by next summer. Charles Reif is president; M. O'Grady, first vice-president; John H. Hill, second vice-president and general manager; S. W. Divine, secretary; S. A. Hunt, treasurer; Foust & Payne, general counsel; capital proposed \$2,000,000.

Tenn., Chattanooga.—Ordinances to grant franchises to the Chattanooga Traction Co., organized by C. E. James and others, and the Chattanooga, Rome & Atlanta Interurban Railway Co., organized by S. W. Divine and others, have been presented to the Municipal Commissioners.

Tenn., Lancing.—The Mason & Hanger Company of Richmond, Ky., has a contract on the Queen & Crescent Route between Lancing and Oakdale, Tenn., 14 miles.

Tenn., Dover.—The Tennessee & Cumberland River Railroad, it is reported, contemplates extending from Bear Springs to Dover, about seven miles. James Neblett is said to be engaged on survey. J. C. Rails is president and general manager at Carlisle, Tenn.

Tex., Austin,—Frank Matthews of Austin will, it is reported, make survey for a proposed interurban electric railway from Marlin via Austin to San Antonio, Tex., about

Tex., Dallas.—John T. Witt, 410 Gaston Bidg., Dallas, says that his proposed gasoline motor car railway will be 10 miles long, from Dallas to Eagle Ford, Tex., and will include a bridge with two steel spans of 100 feet each and one of 125 feet over the Trinity River.

Tex., Dallas.—The Missouri, Kansas & Texas Railway, according to a local report, proposes to cularge its track facilities in Dallas, A. M. Acheson is chief engineer at Dallas, Tex.

Tex., Granada.—Roach & Stansell of Memphis, Tenn., have contract for extending the Kausas City, Mexico & Orient Railway from Granada to Alpine, Tex., 97 miles. Construction is proceeding.

Tex., Fort Worth.—The Texas & Pacific Railway, it is reported, will add three tracks to its yards in Fort Worth. C. H. Chamberlin is chief engineer at Dallas, Tex.

Tex., Henderson.—Mayor E. B. Alford and Charles L. Brachfield of Henderson are reported planning the construction of a railread from Henderson to Houston, Tex., about 200 miles.

Tex., Longview.—Surveys are being made for a contemplated extension of the Pert Bolivar Iron Ore Rallway from Ore City, which is 30 miles north of Longview, to Clarksville, Tex., 70 miles more. L. P. Featherstone, Galveston. Tex., is president.

Tex., Marshall.—The stockholders of the Marshall & East Texas Rallway are reported to have approved the proposed bond issue for \$5,000,000. The company contemplates extension. R. J. Lockwood is chief engineer at Marshall, Tex.

Tex., Port Aransas.—Construction has be gun on the extension of the Aransas Terminal Railroad to run from a connection with the San Antonio & Aransas Pass Railway on the mainland to the harbor at Port Aransas. Altogether there will be a loop line about 15 miles long. E. O. Burton, San Antonio, Tex., and others are interested.

Tex., Mineola.—The report that the International & Great Northern Railrond would build a line from Mineola to Paris, Tex., is officially denied.

Va., Dante.—An official of the Carolina, Clinchfield & Ohlo Railway is reported saying that surveys have been made for the Elkhorn extension from Laurel Junction, or Dante. Va., to Elkhorn City, Ky., 33 miles. Ward Crosby is principal assistant engineer at Johnson City, Tenn.

Va., Stonega.—The Interstate Railroad Co., says a report, has been granted the right to extend through the town of Notton, Va. A. H. Reeder is general manager at Big Stone Gap, Va.

Gap. Va.

W. Va., New Martinsville.—Joseph Fuccy, contractor, is quoted saying that nine miles of grade on the Clarksburg Northern Railway have been completed ready for tracklaying, and that the line is being rapidly finished into both New Martinsville and Middlebourne.

W. Va., Marlinton.—Reported that Col. J. T. McGraw of Grafton, W. Va., will build an extension from his railroad on Elk River to Marlinton, about 25 or 39 miles.

W. Va., New Martinsville.—Concerning the report that the Baltimore & Ohio would build a new bridge across Fishing Creek at New Martinsville, F. L. Stuart, chief engineer, says that nothing is being cone there at present.

STREET RAILWAYS

Ark., Little Rock.—Surveys are reported being made for an extension of the Argenta Street Railway, work to begin very soon. James P. Clarke is president at Little Rock.

Fla., Key West.—The Key West Electric Co. is reported to have let contract to Ferguson & Ward to rebuild its lines. S. B. Tuell is manager.

Ga., Macon.—The North Macon Street Railway Co. has applied for charter to build lines on Boulevard and North Aves., Spring, Ocmulgee, New, Walnut, 2d, Plum, 3d, Hazel, 4th and Church Sts. and the Waterville Rd.; incorporators, J. J. Cobb, Thos. B. West, Jesse H. Hall, T. C. Parker, W. E. Small, W. G. Lee, B. T. Adams, Frank R. Happ, W. H. Jones, W. H. Fetner, George Dole Wadley and W. B. Sparks.

La., Milneburg.—The Milneburg Civic Improvement Association is working on a plan for street-ear line. The secretary may be able to give information.

Mo., St. Joseph.—The St. Joseph Electric Railroad Co. is chartered; capital \$50,000; incorporators, J. G. Schneider, W. W. Vansant, C. F. Enright and others.

N. C., Albemarle.—James R. Moss and others are reported to have applied for a street railway franchise to build a line to the Crowell Mineral Springs, 1½ miles. N. C., Goldsboro.—The Goldsboro Traction Co. is reported to have filed mortgage to secure \$100,000 of bonds for extensions and improvements. E. R. Austin is general superintendent.

S. C., Spartanburg.—The Spartanburg Street Railway Co. is reported surveying for a belt line.

Spartanburg.—Expected that construction will soon begin on a street railway extension by the Spartanburg Railway, Gas & Electric Co. F. M. Knox is vice-president and general manager.

Tex., Corpus Christi.—W. E. Pope will, it is reported, soon apply for a street railway franchise in Corpus Christi on behalf of a

syndicate formed in Minneapolis. About 14 miles of line are to be constructed.

Tex., Rio Hondo.—The Rio Hondo Public Ctilities Co. has been chartered with \$10,000 capital; incorporators, W. P. Morrison, E. Il. Smith and F. M. Paul. Sr.

Tex., Sherman.—The Southern Street Rell. way, says a report, will build an extension over Gray's Hill. The Texas Traction Co., controls the property. W. R. Brents, Sherman, Tex., is vice-president.

Va., Richmond.—The Richmond & Henrico Raliway Co. has applied for franchise to build an extension of 2½ miles in the East End. John C. Hagan is secretary.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

Boller. See "Sawmill."

Brick Machine.—See "Concrete Mixers, etc."

Bridge.-Department of Public In nts, Sub-Department of City Engineer McCay, Baltimore, Md. Scaled propo ddressed to Board of Awards, care of City ter, received by City Register at his City Hall, until 11 A. M. December 20 nove Warren truss bridge and to conto remove Warren truss bridge and to con-struct and erect steel plate girder bridge in th Monroe St., over Baltimore & Ohlo lroad tracks; foundations will be installed this department and be ready about May Specifications, proposal sheets and plans South furnished upon application to this office on denosit of \$5, which amount will be returned ded plans are returned to this office n than December 20; proposals receive eparately for wrecking and purchasing eld bridge, but preferment will be given to bidder wreck, purchase old bridge and bridge; rights reserved; certified bidder on a clearing house bank, to order of Mayor and City Council of Baltimore for \$500 most accompany each

Bridge Construction.—Kanawha County Commissioners, Charleston, W. Va., will receive bids until December 26 for construction of iron truss bridge, of not less than 208 feet extreme length, with roadway of 16 feet clear width, with all convenient and necessary fills at both ends, to be built across Poca River, about 200 feet above mouth of Kelley's Creek; bridge to be constructed under direction of County Court and County Road Engineer, F. G. Burdette, and be completed on or before May 5; each bidder is to furnish and submit plans for bridge and concrete masonry with proposal, in accordance with specifications, explanations and map; A. R. Shepherd, president County Court.

Bridge Construction.— Chairman of bridge committee, Atlanta, Ga., will receive bids until noon January 15 for construction of steel bridge with reinforced concrete approaches at Bellwood Ave.; plans and specifications may be obtained from R. M. Ciayton, chief engineer of construction; certified check for \$20 required to secure plans and specifications.

Bridge Construction.—Dr. W. W. Falson, superintendent State Hospital, Goldsboro, N. C., will receive bids until noon January 3 for furnishing and erecting steel work for 80-foot span steel bridge over Little River at Goldsbore; information, plans and specifications may be obtained at office of Dr. Faison, superintendent, at hospital; bidders to examine site before submitting bids; certified check \$300; D. E. McKinnie, chairman executive committee.

Bridge Construction.—Blds will be received until noon December 15 for construction of steel bridge across Bayou Teche at Olivier, La., as per plans and specifications on file with Willie Burke, secretary Police Jury, New Iberla, La., or with L. A. Moresi, president Police Jury, Jeanerette, La.

Bridges.—P. St. J. Wilson, State Highway Commissioner, Richmond, Va., receives bids until December 18 (extended date) on construction of two steel bridges in Spotsylvania county; plans and specifications on file with County Clerk.

Building Matelals.—Dr. A. H. Morey, Hendersonville, N. C., wants prices on steel ceiling, cornices, roofing, wainscoting, etc. Building Materials, etc. — Marshail Bros., Lonaconing, Md., want catalogues and prices on building materials, including steel ceilings; also on contractors' trachinery.

Contractors' Equipment.—See "Building Materials."

Building Materials, etc. — Geo. W. Stiles Construction Co., 721 Rookery Bid., Chicago., Ill., figuring general contract for new postoffices at Miami, Fia., and Paragould, Ark., and also low bidder on postoffice at Union City, Tenn., wants bids on all subcontracts and materials entering into these structures.

Building Materials.—Read Parker Construction Co., Tampa, Fla., contractor for courthouse at Inverness, Fla., wants following building materials: Steel, steel workered, reinforced concrete steel, fireproofing, brick, lime, cement, terra-cotta, clay tile for roof, Georgia granite, Alabama marble.

Building Materials.—Sloan Construction Co. 19 K St. N. E., Washington, D. C., wants bids on gas fixtures and mantels and sub-bids on tin and slate roofing, galvanized cornice, painting, hardware, glass, etc.

Butchers' Supplies.—See "Skewers."

Candy Machinery.—E. V. Folsom, Box 535, Orange, Tex., wants to correspond with manufacturers of candy machinery.

Canned Goods, etc.—Andre Romberg, 19, Rue de Famatina, Cauderain, near Bordeaux, France, wants prices on canned goods, canned foods and dried fruit; view to representation on commission.

Cornice Brake.—See "Corrugated Rolls,"
Corrugated Rolls, etc.—O. R. Whitney.
29 Cortlandt St., New York, wants one set of corrugated rolls, 11x12 between housings, 1½ to 2½ inch corrugation; send detailed information with prices by first mail; also wants eight-foot power cornice brake.

Cement.—Broadmoor Co., Frederick II. Rand, secretary, Miami, Fla., wants cement for sidewalk and street construction

Concrete Mixers, etc.-W. A. Tyer, 1118 Travis St., Fort Worth, Tex., wants catalogues and prices on concrete mixers and concrete brick machines.

Corn Shellers. - See "Threshing Ma-

Crusher.-See "Quercitron Manufacture."

Crushed Stone.—W. B. Herlot & Co., Mutual Life Bldg., Jacksonville, Fla., want to correspond with manufacturers (in Georgia, North and South Carolina) of crushed

Drainage.—Open bids will be received 2 P. M. December 30 at office of Mary Mac Plantation Co., Memphis, Tenn., for construction of 216,000 yards dredge ditches and 210,000 yards of small lateral ditches near Robinsonville, Miss.; bids for entire work or sections; certified check for 5 per cent.; rights reserved; information may be secured from Morgan Engineering Co., Clo Goodwyn Institute, Memphis.

Derrick Engine. — Greensboro Supply Co., Greensboro, N. C., wants second-hand double-drum derrick engine with attachment for swinging derrick around. Give full description and dealers' price.

Derrick Irons.—Southern Equipment Co., 3517 27th St., North Birmingham. Alawants two 50-ton derrick Irons; send sketch or blueprint; will consider used machines in first-class condition.

Dredging.-Office Commissioners District

14, 1911.

Dredging.-U. S. Engineer Office, 920 17th St. N. W. Washington, D. C. Proposals will be received until noon January 8 for dredging in Anacostia River; information on appli-cation: W. C. Langhtt, Lieutenant-Colonel,

Dried Fruits.-See "Canned Goods, etc." Electric Equipment. - See "Heating.

Electrical Machinery.-Prison missioners, J. A. Palmer, secretary, Hunts-ville, Tex., will receive bids until January 5 for electrical machinery for shops and power plant at Huntsville; for specifications ad-dress lien E. Cabell, chairman.

dress near E. Cobert, Charlest H. Electrical Machinery.—P:anters' Oll Mill & Gin Co., Koschisko, Miss., wants prices on second-hand alternating-current generator, 75 to 100-kilowatt, 1100-volt, 125

Electric Lighting .- Office Commission esterret of Columbia. Proposals will be seeived until 2 P. M. December 18 for fur-ishing labor and material to install comnishing moor and material to instant com-plete electric-lighting system in James Or-mond Wilson Normal School Eullding, No. 162, 1th and Harvard Sts. N. W., Washing-ton. Forms of proposals, specifications and necessary information may be obtained from the chief clerk, Engineer Department, Room

Elevators.—Reap & Crawford Furniture Co., Fine Bluff, Ark., wants adresses of manufacturers of hand and electric freight

Engine .- See "Sawmill."

Farm Implements .- See "Threshing Ma-

Fertilizer Machinery .- Southern Menhaden Co., Bisbee Bldg., Jacksonville, Fla. will want prices on fertilizer machinery.

Fireproof Doors, etc.-Henry Mount Tex., wants prices on fireproof doo

Puels-D. B. Evans, 506 Keystone Bldg., Pittsburgh, Pa., wants readily combustible fuel to give greatest possible heat; mere heat than ordinary fuel carbon; must burn like charcoal and be free from odor, smoke and flame; will contract for ton quantities.

Garter Machinery.—American Garter Co., 22232 First Ave., Birmingham, Ala., wants prices on folding machines for manumen's garters.

Gasoline Engine.—M. A. Layman, Day-on, Va., will install gasoline engine.

Glass Mirror Machinery.-L. A. Wol-cott, Huntington, W. Va., wants information and prices on equipment for glass mirror

Granite.-See "Building Materials."

Gravel.-W. B. Heriot & Co., Mutual Life Bldg., Jacksonville, Fla., want to correspond with owners (in Georgia, North and South Carolina) of gravel pits.

Grinding Machinery.—J. M. Roberts, Artesia, Miss., wants information and prices on machinery for grinding and preparing limestone for shipment.

Henting, etc.-Office Commissioners Dis trict of Columbia. Proposals will be received until 2 P. M. December 18 for heating, ven until 2 P. M. December 18 for heating, ven-tilating and electric generating installation in James Ormond Wilson Normal School Building, No. 162, 11th and Harvard Sts. N. W., Washington, D. C. Forms of pro-posals, specifications and necessary informa-tion may be obtained from chief clerk, Engl-pher hapariment. Room 427, District Ridge. don may be obtained from chief clerk, Engi-neer Department, Room 427, District Bldg., Washington, D. C.

Henting Plant .- Dr. A. H. Morey, Hen-N. C., wants prices on steam derson ville. beating plant.

Heating Plant.-Perry B. Pepper, York, g, with radiates rices on heatin for school building of seven rooms and audi-

Holsting Engines. — Southern Equipment Co., 2517 27th St., North Birmingham, Ala., wants two hoisting engines; 50 horse-power each; double drum; double cylinder; boom-swinging attachments; Lidgerwood preferred.

Ice Machinery.—George C. Randolph, Perdido Beach, Ala., will open bids February 1 for 10-ton ice-plant machinery.

Laundry Machinery.-L. F. Ervin, scotts, N. C., wants prices on new or secondhand laundry equipment.

Laundry Machinery. — M. A. Ashly, Shenandoah, Va., wants addresses of manu-facturers of steam-laundry machinery.

Lighting Plant .- County Commissioners of Rockingham county, North Carolina, will receive on January 1 bids for providing courthouse and jail with modern lighting plant; usual rights reserved; all inquiries should be addressed to J. P. McMichael, clerk of County Commissioners, Wentworth, N. C. Marble.-See "Building Materials

Ment-packing Plants.-See "Olls, etc."

Mill Machinery, etc .- Georgia Supply & Machinery Co., Rome, Ga., wants catalog and jobbers' prices, from manufacturers, mill, mine and general manufacturers' s plies, machinery, etc.; also pipe, pipe fit tings, valves and transmission machinery in market about January 1; personal call by rket about January 1; personal call by

MID Work .- Millhellon Bros., Kyle, Tex want prices on mill work, including sash and doors; will send list of material wanted on

request.

Naval Supplies.—Proposals received at Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 10 A. M. December 19, and opened immediately thereafter, to furnish at Navy-yard, Charleston, S. C., quantity of naval rupplies as follows: Schedule 4115, double surfacer, molder; schedule 4129, solder, steel plates: schedule 4129, spruce poles; schedule 4131, lye. Applications for proposals should designate schedules desired by number. Blank proposals will be furnished upon aplication to the navy pay office, Charleston, S. C., or to the bureau, T. J. Cowle, Paymaster-General, U. S. N. J. Cowle, Paymaster-General, U. S. N.

Naval Supplies.—Navy Department, Eu-reau of Supplies and Accounts, Washington, D. C., receives bids until January 2 for fur-nishing 4500 square feet of asbestos felting. nishing 4500 square feet of asbestos felting, schedule 4176; 8 platform scales and 48 wheelbarrows, schedule 4174; miscellaneous lot of birch, 14,000 feet of oak, 42,000 feet of white pine and 25,000 feet of yellow pine timber, schedule 4171; 75,000 pounds of dry red lead, schedule 4172; 2800 pounds of lead pipe, 800 pounds of brass voice tubing, schedule 4173; 35 brass gate vaives and 22 brass globe valves, schedule 4175; delivery Navy-yard, Norfolk, Va.; also receives bids until January 2 for furnishing II,400 pounds of sheet brass, 46,000 pounds of vanadium steel, schedule 4168; delivery Navy-yard, Washington, D. C.; for schedules apply navy pay office nearest navy-yard.

Naval Supplies.—Proposals received at

Naval Supplies .- Proposals received at Naval Supplies.—Proposals received at Bureau of Supplies and Accounts, Navy De-partment, Washington, D. C., until 10 A. M. December 19, and opened immediately there-after, to furnish at Navy-yard, Norfolk, Va., quantity of navy supplies as follows: Sched-ule 4121, linseed oil; schedule 41.2, steel boits and nuts. Applications for proposals should designate schedules desired upon application to the navy pay office, Norfolk, Va., or to the bureau. T. J. Cowle, Paymaster-General,

Naval Supplies .- Proposals received at Bureau of Supplies and Accounts, Navy De-partment, Washington, D. C., until 10 A. M. December 19, and opened immediately there-after, to furnish at Navy-yard quantity of atter, to turnish at Navy-yard quantity of mayal supplies as follows: Schedule 4127, motors, meters; schedule 4138, alcohol, nails, screws, white pine. Applications for pro-posals should designate schedules desired by number. Blank proposals will be furnished upon application to the lureau. T. J. Cowie, Paymaster-General, U. S. N.

Oil Machinery.—Southern Menhaden Co., Bisbee Bldg., Jacksonville, Fla., will want prices on oil machinery.

Oils, etc.—Andre Romberg, 19, Rue de Famatina, Cauderain, near Bordeaux, France, wants prices on cottonseed oil, petroleum lard, cooking oils and fats and hams; view to representation on commission.

Paving.—City Council, Gadsden, A!a., will receive bids at council chamber at 8 P. M. December 18 for following (Imp. order No. 38): 23% square yards concrete sidewalk: 50 square yards concrete driveway; 2140 linear feet concrete 8-inch curb 36-inch gutter; 100 linear feet 5-foot concrete gutters; 6 catch-basins; 1400 cubic yards gradies: plans, profiles and specifications on tile ing; plans, profiles and specifications on tile at office of Chas. L. Marsh, City Engineer.

Patternmakers.-See "Stove Patterns Paving.—City of Arcadia, Fla., will re-ceive bids until December 20 for construc-tion of two miles of concrete sidewalks; specifications can be had by addressing Harry Burton, City Clerk.

Paving.—J. F. Evans, secretary Improvement District No. 190, Room 214 Southern Trust Bidg., Little Rock, Ark., will receive bids until noon December 20 for grading, curbing, guttering and draining and constructing sidewalks on West 23th St. from Arch to Wolfe St.; for plans and specifications address H. Levinson, City Engineer.

Paving.—F. J. Von Zuben, acting City Engineer, Fort Worth, Tex., wit! receive bids until 3 A. M. December 12 for repairing conuntil 9 A. M. December 12 for repairing con-crete base already constructed and paving sur-face, with vitrified brick, of Exchange Ave. from west bank of Marine Creek to east the of North Main St., containing about 7609 square yards; specifications and proposal forms on file with City Engineer; certified check \$1000; W. J. Estes, City Secretary.

Pipe-threading Machinery. - Richton mber Co., Richton, Miss., wants addre manufacturers of combination pipe bolt-threading machine.

Pipe.-See "Mill Machinery, etc.

Piping.—Broadmoor Company, Frederick H. Rand, secretary, Miami, Fia., wants gal-vanized-iron water and sewer pipe; sewer pipe, from 6 to 10 inches in size.

Piping. — Sealed proposals received by Board of Public Works, Tallahassee, Fla., until 7.30 P. M. December 28 for furnishing f. c. b. cars at Tallahassee, Fla., about 96 tons 4, 6 and 8-inch cast-iron water pipe (either bell and spigot or universal) and 6 tons of fittings; board reserves right to vary from stated quantities and to reject any or all bids: address compunications to engi . H. Ellis; D. R. Cox, secretary.

Plumbing.—P. B. Pepper, York, Ala., cants prices on plumbing for \$10,000 school-couse of seven rooms and auditorium.

Quereitron Manufacture.-F. Schwoon ba Springs, Tenn, wants information to manufacture of quereitron from black-oak bark : wants prices on crush

Rack Railway and Miter Gate Ma-Rack Railway and Mitter Gate Material.—Scaled proposals received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., for Canal Commission, Washington, D. C., until 10:30 A. M. January 6 for furnishing miscellaneous material for rack railway and miter gates, including track bonds, flexible and solid conduit fittings, steel splice bars, brass pins, sheet asbestos pads, etc.; blanks and general information relating to this circular (No. 665) may be obtained ete.; blanks and general information relating to this circular (No. 665) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bildg., New Orleans, and 1886 North Point St., San Francisco; also from U. S. Engineer offices in Seattle, Los Angeles, Baltimore, Philadelphia, Plittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercelal Club, Kansas City; Chamber of Commerce, Quincy, III., and Chamber of Commerce and Board of Trade, Tacoma; F. C. Boggs, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Rails.—Davis, Turner Falls & Southwest-

Rails.—Davis, Turner Falls & Southwest-rn Railroad Co., C. C. Ricker, secretary, bavis, Okla., will consider 6 to 10 miles of pound relayers, subject to Hunt's inspe

Refrigerating Machinery.-E. V. Folsom, Box 535, Orange, Tex., wants to correspond with manufacturers of small refrigerting machinery

Retaining Walls .- Charles E. Bolling. City Engineer, Richmond, Va., will receive bids until 3 P. M. December 18 for construc-tion of concrete retaining walls along pro-posed new line of Lester St., adjacent to Ash St.; plans, specifications and further information may be obtained from City Engi-neer; certified check \$250.

Road Construction,-Calhoun County Road Construction.—Calhoun County Commissioners, Anniston, Ala., will receive bids until noon January 10 for grading, dealn-ing and surfacing with either chert or lime-stone about four miles of Alexandria Rd.; certified check \$400; W. S. Keller, State High-

Road Construction .- Escambia County Commissioners, Brewton, Ala., will receive bids until noon January 5 for draining and surfacing with sand-clay about nine miles of road; certified check \$250; W. S. Keller, State Highway Engineer

Sawmill.—Harry M. Perry, 32 Landseer St., West Roxbury, Mass., will want small portable sawmill, 5000 feet per day capacity; 5-horse-power engine; 50-horse-power boller; drykiln, with blowers, etc.; small planer, edger; lath mill; heading machine (for slack cooperage); veneer lathe; spoke and handle lathe.

Scales.—The Scotch Company, E. M. Wheeler, agent, Walnut Cove, N. C., wants prices, with view to agency, on wagon and platform scales; also pitless wagon scales.

Sewer Construction .- P. A. Gorman, commissioner of street, sewers and public improvements, Waco, Tex., will receive bids until 19 A. M. January 2 for constructing sanitary sewer system comprising 2900 linear feet 15-inch, 12,000 linear feet 12-inch, 10,000 linear feet 10-inch and 6000 linear feet 8-inch | corder

vitrified clay sanitary sewer pipe; 108 linear feet 15-inch and 36 linear feet 12-inch cast-iron sewer pipe; also all Ys, Ts, curves, etc.; plans, profiles and specifications on file with ed upon deposit of \$5; certified check 5 cent. of cost. City Engineer, copies of which may be

Construction. - Carmichael. Sewer Sewer Construction. — Carmichael, Brooks & Powers, 414 Southern Trust Bldg., Little Rock, Ark., will receive bids until 2 P. M. December 20 for construction of severs in District No. 69; certified check \$500; plans and specifications on file with E. A. Kingsley, engineer for district; L. J. Wright,

Sewer Construction.—Baltimore (Md.) Board of Awards will receive bids at office of City Register, City Hall, until 11 A. M. De-cember 20 for constructing section No. 5 of cember 20 for constructing section No. 5 of high-level interceptor; for laying house con-nections across footways, etc., in sanitary districts Nos. 25, 27, 28, 24-A and 35, and for building Jones Falls drift catcher, as shown on plans on file in office of Calvin W. Henon pany on me in omce of Caivin W. Headrick, chief engineer Sewerage Commission; specifications and plans can be obtained upon application at office of Sewerage Commission, Room 904 American Bidg.; charges will be made for each specification and blueprints. be made for each specification and blueprints, \$5; charges refunded upon return of unused specifications and plans, etc.; certified check for amounts; section No. 5, high-level inter-ceptor, \$4500; house connections across feot-ways, etc., \$2000; Jones Falls drift catcher, ways, etc., \$2000; Jones Falls drift catcher, \$500; approximate quantities, section No. 5, high-level interceptor, 4170 linear feet brick and concrete sewer, 68 to 82 inches diameter; 13,000 cubic yards excavation in trench; 2470 linear feet excavation in tunnel; 640 cubic yards brick masonry; 5140 cubic yards concrete masonry; 300 M feet B. M. timber left in trench; 4100 linear feet vitrified and castlron pipe house connections; 200 square vards, waterproading; house connections iron pipe house connections; 200 square yards waterproofing; house connections across footways, etc.; 3815 houses are to be connected, requiring 19,000 linear feet 5-inch extra heavy east-iron soil pipe; 15,000 linear feet 5-inch T. C. pipe; 11,600 linear feet 6-inch T. C. pipe; 10,000 linear feet 6-inch T. C. pipe; Jones Falls drift catcher, 50 culle yards earth excavation; 60 cubic yards rock excavation; 170 cubic yards concrete nasonry; 20,000 pounds reinforcing steel; 18,000 pounds iron eastings; 100 cubic yards earth filing; 450 square yards macadam paving; Charles England, chairman Sewerage Commission.

Skewers,-J. W. Miner, Ronda, N. C., cants information and prices on meat

Staves, etc.-Andre Romberg, 19, Rue de Famatina, Cauderain, near Bordeaux, France, wants prices on wood and staves (bols de merrains) for barrels and casks; view to representation on commission.

Steel .- See "Building Materials."

Steel Ceilings .- See "Building Mate

Steel.—Proposals received at Bureau of Supplies and Acounts, Navy Department, Washington, D. C., until 19 A. M. December 26, and opened immediately thereafter, to turnish at Navy-yard, Washington, D. C., a quantity of hot-rolled Lar steel. Applications for proposals should refer to schedule 4155. Blank proposals furnished upon application to bureau. T. J. Cowie, Paymaster-General, U. S. N. Steel.-Proposals received at Bureau of

Steel (Galvanized) .- Eunice Carriage and Machine Shop, A. D. Marcotte, manager, Eunice, La., wants galvanized corrugated curved sheets for manufacture of steel

Stove Patterns.—Danville Plow Works, B. C. Sides, proprietor, Washington St., Dan-ville, Va., wants addresse of manufacturers of stove patterns.

Telephone Equipment.—Romulus Ru-ral Telephone Co., Romulus, Okla., wants prices on equipment and supplies for several miles of rural telephone line.

Time Clocks.-Union Bleaching & Finishing Co., 53 Leonard St., New York, wants in-formation and prices on time-recording

Threshing Machines, etc. - Levant-American Commercial Bureau, 101 Beekman St., New York, wants adresses of manufacturers of threshing machines: also corn

Transmission Machinery .- See "Mill

Trestle Construction, etc.—Board of Affairs, Charleston, W. Va., will receive bids until 4 P. M. December 18 for construction of trestle work and necessary fill connecting Bigley and Pennsylvania Aves. across Magazine Branch; plans and specifications on file with City Engineer; bids to cover work as whole and also separately for trestle work and grading and fill; J. S. Ross, City Re-

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Water-works Condenser.—City Countil, Muskogee, Okla., will receive bids until cil, Muskogee, Okla., will receive bids until 10 A. M. December 19 for furnishing and erecting water-works type of condenser capable of handling 2100 pounds of steam per hour, with tubes of sufficient diameter to pass 4500 gallons per minute; specifications may be secured at office of Alexander Potter, may be secured at omce of Alexander Fotter, consulting engineer, 111 Liberty St., New York, or at office of City Engineer, Muskogee; certified check 10 per cent. of 51d; prompt-ness of shipment to be considered in award-ing of contract.

Water-works. - Water Commissioners, A. H. Wearn, clerk, Charlotte, N. C., will receive bids until 8 P. M. December 19 for erecting pumping building and intake, including laying of about 160 feet of 36-including laying of about and specifications on file with clerk and at office of Gilbert C. White, engineer, in Charlotte; specifications, proposal forms, etc., furnished on de-posit of \$5; blueprints furnished on payment of \$2; certified check \$2000.

Well-drilling Machinery. - Horne Bros. Company, Oxford, N. C., wants in mation and prices on machinery to wells two inches in diameter.

Woodworking Machinery. - D. Dickinson, Quitman, Ga., wants addresses of manufacturers of machinery for turning

Woodworking Machinery. - M. Layman, Dayton, Va., will install medium-size planer and matcher, jointer, ripsaws

Woodworking Machinery.-See "Saw-

Co. of Chattanooga, is manager of the Geor-gia Supply and Machinery Co.

Reorganization of the Western Conduit & Manufacturing Co.

It will be of particular interest to conduit ianufacturers and the conduit trade to now that in the reorganization of the Western Conduit & Manufacturing Co. of Chicago which was recently effected, with an increase of capital stock to \$100,000, the Youngstown et & Tube Co. of Youngstown, O., has ac-red an interest in the conduit company. The officers of the reorganized company J. Campbell, president; W. J. McKay, rice-president and general manager; J. H. Rogers, secretary and general manager of Rogers, secretary and general manager of sales, and C. C. Rose, treasurer. These of ficers, together with Richard Garlick, consti tute the board of directors. It is stated that as soon as a new factory can be erected at Youngstown, O., the company will move its headquarters to that place, probably early in the spring. It is the intention of the company to make this Youngstown factory rge capacity with modern equipment e manufacture of its rigid conduits revduct" and the new flexible armored con ductor "Realflex" which the company has recently put on the market.

Annual Meeting of the National Corrugated Culvert Manufacturing Co

The annual meeting of the National Corru ated Culvert Manufacturing Co. was held a Chicago at the Hotel Sherman December to 9. The company is composed of 45 different concerns operating in every part of the United States. They represent a large the United States. the United States. They represent a large business and a big tonnage in flat sheets, making their culvert pipe of the high-grade "American Ingot Iron" produced by the American Rolling Mill Co., Middletown, O. The company was organized to be of mutual helpfulness between its members and to maintain the patent rights which they conhelpfulness between its members and maintain the patent rights which they co trol. Papers were read and discussion was selling and other matters pertaining immediately to company business. At the election the following were chosen: J. S. Beall, Portland, Ore., president; H. W. Force, Berkeley, Cal., vice-president; Ray F Minneapolis, Minn., secretary; Paul West hand, Ore., president; H. W. Force, West Berkeley, Cal., vice-president; Ray Frazier, Minneapolis, Minn., accretary; Paul T. De Frees, Warren, Pa., treasurer. These men, with E. E. Placek, Wauhoo, Neb.; C. N. Mc-Millan, Sloux Falls, S. D., and G. H. Charls, Middletown, O., comprise the board of di-

The "Ingot Iron Process" in the Iron and Steel Industry.

Many of the foremost experts in metal have recognized the importance proving the quality of our iron and steel, as well as increasing the quantity produced. Quality and quantity do not always go hand in hand, and sometimes quant, in hand, and sometimes quantity. In the final round-up, quality will tell the story of what nation is to be supreme in the finer finished products of this The maker of "American The maker of "American The Mill Co. industry. The maker of "American Iron," the American Rolling Mill Co. of Middletown. O., is seeking to win on quality, and with that as a basis of opera-ions the quantity should soon take care of itself. This rust-resisting iron is strong in welding and enameling qualities, esidual magnetism and other les. The "Ingot Iron Proc possessing advantageous features both the Bessemer and the open-hearth process, has, it is claimed, climinated the bad features of all processes. Proof of its novelty and usefulness lies in the fact that the U. S. Government has granted five basic patents on the process and the Iron itself, and it is now being manufactured into bil-lets, slabs, plates, sheets, rivets, shapes, etc.

General Electric Co.'s Air Compressor Sales.

Recent sales of centrifugal air c manufactured by the General Electric Co., Schenectady, N. Y., include the following: One to the Skinner Engine Co., Eric, Pa., amanufacturer of steam engines, for blowing its new 54-inch cupola; one to the Lamson Consolidated Store Service Co. for installation in Mandel Bros.' store, Chicago, for use neumatic cash conveyor syste Lunkenheimer Company, Cin to the Lunkenheimer Company, Cincinnati, O., manufacturer of valves and lubricators, for use with oil-fired furnace; one to the Great Western Smelting & Refining Co. of San Francisco, for use with oil-fired furnace; one to the Universal Pneumatic Transmisone to the Universal Paedmatic Praismission Co. for J. M. Adams' store, Buffalo, N. Y., for pneumatic cash conveyor system; one to the American Shop Equipment Co., Detroif, Mich., for use with oil-fred furnace; two to the Guarantee Construction Co., New York, one for installation at Jon-quiere, Quebec, and one for the Suburban

Light & Power Co., Chicago, for use in co. Light & Power Co., Chicago, for use in con-nection with ash-handling systems; two to Dodge Bros., Detroit, Mich., for use with oll-fired furnaces, and one to the American Steam Pump Co., Battle Creek, Mich., for use with a 42-inch cupola.

Change of Officers of Manning, Maxwell & Moore, Inc.

Recent changes of officers of Manning, Marwell & Moore, Inc., 85-89 Liberty St., New York, include the election of W. H. McIntyre York, include the election of W. M. Ascintyre as first vice-president, who becomes active operating head of the company. Mr. McIntyre was born in New York and educated in the public schools in that city. His first business experience was with the Equitable Life Assurance Society, in which he worked Life Assurance Society, in which he worked up through the various grades to the position of fourth vice-president, which he held until he resigned a short time ago. As a result of his own experience Mr. McIntyre is a firm believer in the doctrine that diligent, intelli-gent, persistent and loyal work is the only means to real and permanent success. Ha means to real and permanent success. He also has strong convictions that a man must give his entire time, thought and best effort to one business, and with this idea in view he intends to devote his entire time to Manning the large and growing business of Manning, Maxwell & Moore, Inc. This com-pany has branch offices in Boston, Pitts-burgh, Detroit, Cleveland, Chicago, Philadelphia, Milwaukee, St. Louis, Buffalo, San Francisco and Yokohama, Japan. It is one of the largest manufacturers and distributors of machine-shop and foundry equipment in this country, and also of brass goods, such as valves, injectors, indicators, etc. It trols the entire output of the Ashcroft Man-ufacturing Co., the Hayden & Derby Manu-facturing Co., the Hancock Inspirator Co. and the Consolidated Safety Valve Co.

Sales of Icemaking and Refrigerating Machinery.

In the continuation of the demand pre-viously noted at various times for icemaking and refrigerating machinery in the South the sales in that territory by the York Man-ufacturing Co. are in evidence. Included in the recent sales of that company are the following: To the Mound Bayou Ice & Fuel tonowing: To the Mound Bayou fee & Fuel Co., Mound Bayou, Miss., a complete 10-ton icemaking plant; the Ware County Light & Power Co. Wayeross Ga. a complete 50-ton ower Co., Waycross, Ga., a complete 60-ton emaking plant; the Consolidated Ice & ower Co., Valdosta, Ga., a 120-ton horizontal duplex machine, high-pressure side and extensive repairs; Wm. P. Waxter & Son, Baltimore, a 50-ton icemaking plant; T. G. McGonigal, Mobile, an 8-ton refrigerating machine and a 5-ton freezing system; Point Pleasant Water & Light Co., Point Ple W. Va., a 40-ton high-pressure side at ton freezing and distilling system; li Ice & Cold Storage Co., Rogers, Ark., ton refrigerating machine and a 35-ton freezing system; Mayer Bros., Frostburg, Md., a 25-ton icemaking plant; Ozark Cold Storage Co., Mountain Grove, Mo., a 40-ton high-pressure side and a 15-ton freezing and distilling system; Citizens' Bank & Trust Co., Tampa, a 4-ton refrigerating plant for drink-ing water; De Soto Manufacturing Co., ing water; De Soto Manufacturing Co., Punta Gorda, Fla., a 40-ton cross-compound high-pressure side; South Atlantic Packing Provision Co., Savannah, a 60-ton lec-aking plant; C. E. Suter, Hagerstown, d., a 175-ton cross-compound refrigerating machine, a high-pressure side and a com plete 75-ton ice plant; Bastrop Water th Co., Bastrop, Tex., a complete 10-ton making plant, and many others. Light Co., Bastro

Installation of a Large "Strocco" Blower Fan.

There was recently installed at the p use of the Hudson & Manhattan Railway Co., Jersey City, what is said to be one of largest blowers for producing forced t ever used in New York or vicinky, as additional interest on account of the exceptional pressure of about five inches on water gauge obtained. This pressure permits of the use with good results of No. 3 anthracite coal in the furnaces to which the forced draft is applied. The equipment of this station consists of two 3000-kilowatt and two 6000-kilowatt General Electric turbo generators, the steam being supplied by eight 900-horse-power Babcock & Wilcox bollers fitted with drums and superheaters, each fitted boiler having 900 square feet of heating sur-The use of this forced-draft system sulted in the boiler rating being prac-The u tically doubled as compared with the re when using ordinary draft. The fan used is a double-inlet double-width "Sirocco." fur-nished by the American Blower Co. of De-troit. The fan wheel is 72 inches wide by 72 inches in diameter, and is secured to a steel shaft 16 feet long, 9 inches in diameter at the center and 6 inches at the bearings.

INDUSTRIAL NEWS OF INTEREST

Dealing in Big Figures.

No one except a blind man can possibly make a mistake next year about dates if he happens to have before him the 1912 calendar of the American Linseed Co., 100 William St., New York. One sheet is devoted to each date, the figure of which is one foot high.

Wants to Buy an Electric-Light or Water-Works Plant.

An advertiser in our "Classified Opportunities" columns wants to purchase in a Southern town an electric-light or water-works plant. A franchise for a new plant, together with a site for its construction, would be considered.

Position Wanted by Double Entry Bookkeeper.

A man with over 10 years' business experience advertises in our columns for a position as bookkeeper and general office man. He will consider taking some stock in good busi-

Sale of Table Manufacturing Plant.

The creditors committee of the Virginia Table Works, Inc., Marion, Va., advertise in this issue for the sale to the highest bidder on January 10, 1912, at their plant in Marion, Va., of all its real estate, buildings, machinery, standing timber, equipment and finished tables of various kinds

Security Cement & Lime Co.'s Sales.

Recent sales of Security Portland cement the Security Cement and Lime Co. Baltimore include 20,000 barrels to Lane Bros Baltimore include 20,000 barrels to Lane Bross. & Co. for construction work on the Jones Falls improvement under the Sewerage Department of Baltimore city: 2000 barrels to J. E. Rhoads, Harrisburg, Fa., for general construction work; 2500 barrels to the National Building Supply Co. of Baltimore for its general trade. its general trade.

Cook Well Co.'s Holiday Geeting.

The first Christmas and New Year's greet the first Christians and New Year's greet-ing of the season has been received from the Cook Well Co. of St. Louis, Mo. This is in the form of an engraved card which the com-pany is sending to its friends with its good wishes for a Merry Christians and a Happy wishes for a Merry Christmas and a Happy and Prosperous New Year. This company is the patentee of Cook's system of tube wells, which it manufactures, together with well strainers, pumps and well-sinking tools. It contracts for the construction of water-works for cities, railroads and industrial plants, and handles well supplies of various

St. Louis Office and Warehouse Fuellitles for Rent.

A company desiring to establish a branch office and warehouse for Southwestern trade can find advantageous space in St. Louis. Two floors, each 20x125 feet, containing an office in the front of the second floor, re mainder of the space to be used for sto are available in the iron and machinery d trict, close to several of the railroad freig offices, and only a few blocks away from Recause of its location the rent is low. A stock of metal or mill supplies of light machinery could be carried advan tageously. Address "Southwest," care of Manufacturers Record.

The Hill Cotton Compress.

cotton compress invented by William Hill of Alexandria, La., which is operated by steam and hydraulic pressure combined, has recently been successfully tried out. The ad vantages claimed by the inventor for this compress are its low initial cost, economy of fuel and labor, simple operation and the im-proved quality of the bale which it produces. It is stated that the Hill press can be profit-

ably used even to get up steam for baling as small a quantity as 50 bales. A company has been organized with a capital of \$100,000 to handle this compress, which will be manufactured for the company, the latter devoting itself entirely to selling and distributing.

Galion Iron Works Co.'s Atlanta Representative

A partnership under the firm name of Man A partnership under the firm hame of Man-ning & Pepper has been formed at Atlanta, Ga., by Frank J. Manning of Atlanta and C. B. Pepper, recently in charge of the At-lanta office of Smith & Sons Manufacturing Co. of Kansas City. This firm will handle exclusively the products of the Gallon Iron Works Co. of Gallon, O. Mr. Pepper is an expert in road machinery, and Mr. Manning has had much experience in the culvert busi-Both of these lines will be handled by the territory covered by Carolina, Georgia, F the firm, tl and South The office is in the Third National Bank Bldg.

Successful Sales of Mill Property.

J. E. Conant & Co., auctioneers, Lowell, Iass., write that the sale of the properties f Victor Knitting Mill Co. at Cohoes, N. Y., on December 7 and 8 was a success in the large attendance, enthusiastic bidding and the demand for everything offered for sale. The 1850 lots of property were sold well within the schedule time, the first day's sales overreaching the schedule and the second day's sales being completed early in the It is also stated that the succ attending the sale of the property of the Rochdale Woolen Mills last month and the sale of the Victor Knitting Mill Co. are good evidence of the strength of business today when desirable properties are offered and pledged to the highest bona-fide bidders at

The Blake Extension Car Step

An improvement has been invented by John S. Blake by which the Blake car step practically takes care of itself in operation. By means of this improvement it is only neces sary for the conductor or porter to place his foot on the foot clutch, turn a handle a quar ter turn, and the step is lowered. When no necessary for further use by passengers get ting on the train the step is closed by simply pressing a button. Closing the trap door when the train starts will also close the steps. If for any reason the steps are not closed up before the train starts, the moving of the train either backward or forward three feet causes the step to close auto ically. This improvement adds to the ready great convenience obtained by the se steps on passenger cars. The Blake tep Works, Charlotte, N. C., are run-Car Step Works, Charlotte at full capacity to fill orders alr

Jobber in Supplies and Machinery Wants Catalogues

The Georgia Supply & Machinery Co. of Rome Ga., is opening up a jobbing business in that city, which is advantageously located on account of its being a manufacturing center surrounded by ore mines, furnaces, cotton mills, stone quarries, cement plants and various other industries. It is reported that this company will begin with a stock of about \$50,000, to be increased as business demands. Traveling salesmen will be sent out to cover the adjoining territory as soon as the stock is completed. It will be in the market about January 1 for a great variety of mill, mine and general manufacturers' sur plies, machinery, pipe, pipefittings, valves, transmission machinery, etc., and is now ready to receive catalogues and quotations from manufacturers of these articles. W. H. Fickling, formerly with the James Supply

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

This wheel shaft is coupled to a 500-horse

the rate of combustion exce nds of coal per square foot of grate

partment.

Notion Company, manufacturer of Norion grinding wheels, Worcester, Mass., in May, 1911, established a medical department for its employes. The equipment of this department includes a dispensary of moderate size, well lighted and ventilated, and with all the in-

ighted and ventilated, and with all the in-struments necessary for making examina-lions, for rendering first aid to any employe ajured by accidents, and with medicines which may be needed for the treatment of

which may be needed for the treatment of simple cases of illness for which the Indi-vidual may obtain relief and resume work. The physician in charge is at the dispensary an hour and a half in the morning and again in the afternoon. In the morning he exam-

in the afternoon. In the morning he exam-ines all sick employes applying for treat-ment, prescribing for those with minor all-ments which may readily yield to simple treatment, allowing the men to return to work. If anyone is sick enough to have to

stop work, a record is made of the case and the employe is sent home and advised to go under regular medical treatment. The after-noon is devoted almost exclusively to mak-

noon is devoted almost excutsively to making physical examinations. The system involves complete examination of all employes, with immediate attention to all defects found and an effort made to rectify them; re-examination at regular intervals of em-

ployes having physical defects to see that they are kept in the best condition practica-ble; immediate attention to all employes in-

capacitated by injury or illness, and an effort to get them in a normal condition in

the shortest possible time. The results ex-pected which will be of advantage to the company as well as to employes are: The immediate elimination of those absolutely

immediate elimination of those absolutely unfit for work; an increase in the capacity of the partially unfit, by slight changes in work, medicine, mode of living, etc.; exact information regarding those who may become partially or wholly unfit, and a continued effort made to keep this from occurring; a prevention of slichness by advice to emplayes and by immediate attention to slight

ring; a prevention of sickness by advice to employes and by immediate attention to slight

emplayes and by immediate attention to sught aliments: a reduced time of recovery from accidents; elimination of so-called blood poison by prompt and proper treatment of wounds, and finally the elimination of any condition dangerous to other employes. From the data obtained since the estab-lishment of the medical department, it is

issiment of the medical department, it is believed that a high degree of physical effi-ciency may be achieved, and a closer sym-pathy between the employes and the com-

TRADE LITERATURE.

Views of the American Steel & Wire Co.'s Blast Furnaces.

Progressive photographs showing the con-struction of the new blast furnace of the American Steel and Wire Co. at Cleveland, together with 20 other views of the com-pleted furnace, are shown in supplement No.

of the "General Book of Views of Modern ast Furnaces," published by the William Pollock Company, Youngstown, O., builder

Thornton & Alger, Consulting Engi-

A partnership has been formed for the practice of mechanical and electrical engineering by George C. Thornton and Richard W. Alger, under the firm name of Thornton

& Alger, at Chattanooga, Tenn. Particular attention will be given to the heating, ven-

tilation, plumbing, sanitation and lighting of modern buildings. They will carry on a general business in steam and electrical en-

Hanover Wire Screen Cloth.

to their mutual benefit.

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of these furnaces

engendered, all of which will redound

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14, 1911.

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ork Man-cluded in are the e & Fuel te 10-ton Light & te 60-ton horizo

and 15 Rogers Md., a Storag

g Co., rating

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f the

ower electric motor running at a speed of sprevolutions per minute. The strong draft reduced by this blower system reduces the requency of dumping the ashes, so that it as be done at periods when the temporary ass of the steaming capacity of one boller is of little consequence. During the peak adds the boilers are forced to practically bubble their normal rating, during which The Norton Company's Medical De-Realizing that a medical department would prease the efficiency of its employes and that it should increase the good feeling al-eady held by the men for the company, the forton Company, manufacturer of Norton

best effor ea in view e time to business of

& Son.

clude black painted fly-screen material, galvanized, zin coated steel wire and bronze vanized, zinc-coated steel wire and bronze wire. Tables showing the number of square feet per roll in various widths and lengths of wire screen cloth are included in the catalogue. The John M. Hart Company, Chicago, is the manager of sales for the Hanover

Record Shipment of Northcop Looms.

A train loaded with 265 Northrop looms shipped by the Draper Company, Hopedale, Mass., to be distributed among several States, including South Carolina, is shown in Cotton Chats No. 108. It is stated that for the past two years loom shipments by the Draper Company have been so largely to replace old looms that it has been impossible to melt the old looms for recasting as rap-idly as they have been received. Notwithstanding the general curtailment among cot-ton mills the past season, it is stated that the company has received orders for enough Northrop looms to absorb a large share of the output through the winter season.

The H. K. Porter Company's Light and Heavy Locomotives.

The II. K. Porter Company of Pittsburgh has issued a circular describing and illustrating its standard and narrow-gauge locomotives from 3 tons to 150 tons in weight. These locomotives are built to meet conditions of street grades, sharp curves, overoading and long continuous service, often for the full 24 hours per day. The company has greatly enlarged its works and is pre pared to make prompt deliveries. In addition to the steam and gasoline locomotives the company manufactures compressed air loco-motives for all gauges of track, for surface or underground use where other forms of haulage are unsafe or undesirable.

Expert Accountants.

Expert Accountants.

In a neat folder recently issued under the title of "A Question for December 31 or Sooner" Edward T. Perine, expert accountant, Singer Bidg., New York, describes the service which he renders with the aid of a trained staff of assistants. It is stated in this folder that educating business men up to the importance of having audits made is thing of the past. Today most concerns a thing of the past. Today most concerns use accountants either at stated periods or when an office system needs attention. The four main tests of a truly expert audit are treated in this pamphlet under the divisions of dispatch, supervision, responsibility and cost. A specimen presentation page from a report by Mr. Perine is also included.

Goulds Double-Acting Triplex Piston Pump.

Specifications with illustrations, dimensions, capacities, and the various forms of drives used, for the Goulds double-acting triplex piston pump are given in bulletin No. 104. This pump is designed for general water supply, municipal water-works, by draulic elevators, pulp grinders, etc. where water supply, municipal water-works, hy-draulic elevators, pulp grinders, etc., where large capacity is required. It has three double-acting pistons, which give it nearly twice the capacity of the single-acting triplex pump of the same diameter and stroke. A "repair chart" is included in this bulletin, in which the pump and all its parts are shown in cross section and each part is given a number by which orders for spare parts may be conveniently made.

The Wagner Single-Phase Converter.

A device for use in converting alternating to direct current in charging storage batteries of electric vehicles has been produced by the Wagner Electric Manufacturing Co., St. Louis, Mo., in the form of the Wagner single-phase converter. It is made in several capacities, and in addition to charging storage converter. age batteries it is convenient for use in moving-picture and theatrical illumination schemes, in X-ray machines, for energizing telegraph systems, for railway signal work telegraph systems, for railway signal work and miscellaneous industrial purposes. It is particularly adapted to use in garages, where it may be used to drive tire pumps, polishing wheels, machinists' lathes, vacuum-cleaner equipment, etc. Bulletin 97, issued by the Wagner company, describes and illustrates this converter and the switchboards, and contains tables of ratings, prices, etc.

Economic Lubrication.

A pamphlet on "Economic Lubrication," recently issued by the Albany Lubricating Co., Adam Cook's Sons, proprietors, 710 Washington St., New York, contains an article based on a series of actual tests of lubricating greases conducted at Cornell University, together, with tables, showing the Washington St., New York, contains an article based on a series of actual tests of lubricating greases conducted at Cornell Uni-versity, together with tables showing the for 1912. Each brand is illustrated and the number of meshes per inch as applying to each brand is stated. The different types in-

steam-engine cylinder lubrication, the selection and application of cylinder lubricants, tion and application of cylinder lubricants, a description of Albany grease and its advantages, are included in the pamphlet. Another pamphlet recently issued by this company treats of Albany grease as "All Lubricant—No Waste," and also illustrates various kinds of oil cups to be used in connection with Albany grease. tion with Albany grease.

Hayward Plantation Excavating Machines.

Excavating machines especially designed and constructed by the Hayward Company, 59 Church St., New York, for the farmer, ranch or plantation owner who desires to apply modern irrigating methods, are illusappy modern regating methods, are mos-trated and described in pamphlet No. 578, recently issued. Hayward machines are used for excavating main canals, main laterals, sublaterals and drainage ditches, for removing snags and stumps, for cleaning out mill and logging ponds, for draining swamp lands and logsing londs, for draining swamp ands and for irrigation work in general. These machines can be mounted on a floating dredge or on a wagon, and may also be moved on skids or rollers for short distances while engaged at work. Views of these ma-chines are shown in the pamphlet as used in clearing out logging pools, making em-bankments, building ditches and embankments on a rice plantation, reclaiming swamp

Directions for Laying Vitrified Brick Street Pavements.

Since "Directions for Laying Vitrified Brick Street Pavements" was first published one edition after another has followed, show-ing appreciation of engineers and others of its value. To meet this demand a new edition has just been issued with the details of the most modern practice, which is endorsed and recommended by the National Paving Brick Manufacturers' Association, Cleveland. This has been compiled with great care by the engineers of the association and con-tains specifications which fully set forth methods of brick-pavement construction. It is stated that many municipal and State au is stated that many municipal and State authorities realizing the value of the specifications included in this publication have already adopted them outright for brick-pavement work, and they are used by city and county engineers, highway commissioners and other officials, civic boards and improvement organizations in all parts of this country, Canada and other countries. These specifications are furnished free on request.

Bostwick Metal Laths in Fireproof Construction.

A paper on fire prevention by H. B. Mc Master, commissioner for the Associated Metal Lath Manufacturers, recently read by him at a meeting of the Youngstown Credit Men's Association of Youngstown, O., has been issued by the insurance committee. The Bostwick Steel Lath Co., Niles, O., is distributing copies of it, as it is considered of particular interest to the metal-lath industry. It contains much information on dustry. It contains much information on fire prevention. Comparisons are made be-tween the losses from fire in the United States and foreign countries. Of interest to the metal-lath industry is the statement that the Associated Metal Lath Manufacturers of the Associated Metal Lath Manufacturers of the United States are largely responsible for the building of a laboratory at Cleveland to demonstrate simultaneously the relative fire resistance of various materials used in par-titions. The essential part of this labora-tory consists of six reinforced concrete fur-naces so arranged that they can be operated under exactly the same conditions with all facilities necessary for heat measurements and observing the effects of the fire. The

that of an actual conflagration are drenched for several minutes with water, and the comparative effect of fire and water on six different materials at one time may be noted.

The Sterling Electrical Manufactur-ing Co.'s Mazda Street Light-ing System.

The drawn-wire Mazda electric lamps used in the Mazda street-lighting system, which is attracting the attention of municipal au-thorities and others interested in the beautithorities and others interested in the beautifying of cities throughout the country, are manufactured by the Sterling Electrical Manufacturing Co. of Warren, O. Because of the efficiency and attractiveness of this type of street lighting, Warren, O., which was one of the first cities to adopt this system, has been visited by many municipal officers, members of boards of trade and business, men's clubs from all sections of the Thirted States. On account of the many inbusiness, men's clubs from all sections of the United States. On account of the many inquiries regarding data on this system the Sterling company has issued two pamphlets for distribution, one of which describes "Warren Beautiful," and the other is a treatise on the Mazda lighting system, covering all information, including specifications, data and costs. Illustrations of streets illuminated with Mazda lamps and daylight views showing the attractive appearance of views showing the attractive appearance of the lamps, and the "Ionic" lampposts, manthe lamps, and the "fonic" lampposts, manufactured by the Western Gas Construction Co. of Fort Wayne, are shown in these pamphlets. Detailed descriptions and illustrations of the lamps and posts are given in the second pamphlet mentioned, which is entitled "From Posthole to Lights On."

The Jacobs Guided Drag Line Bucket Exeavator.

The adaptability of Jacobs excavating ma-chinery and the wide range of work which it performs are stated and illustrations of the construction and operation of the Jacobs guided drag-line bucket excavator are shown in a pamphlet issued by the Jacobs Engi-neering Co. of Ottawa, III. This machine neering Co. of Ottawa, III. This machine differs from the ordinary bucket excavator, in that the bucket is operated on a swinging boom which holds it firmly to the work required of it, so that the sloping sides of ditches may be easily made or any other contour desired may be excavated. This guide boom places the bucket at all times under the control of the operator, enabling him to cut any slope from vertical to horizontal; the depth of the cut can be regulated so that a long shallow cut can be made lated so that a long shallow cut can be regi-lated so that a long shallow cut can be made in hard material or a short deep cut in soft waterial; the bucket cannot roll over in hard material, fouling the lines, nor can it hard material, fouling the lines, nor can it jump over an obstruction. All cables are kept above the boom out of the dirt, insuring long life to the pulling lines. The bucket is attached to a trolley which travels on the guide boom having two double-flanged wheels riding on the upper flange and a third wheel bearing against the lower flange of the boom. In making the cut the bucket is hauled inward by a cable leading directly from the trolley to the engine. For dumping it is hauled outward by the back-haul cable and is dumped by being hauled out and up the vertical end of the guide boom, the bucket opening being then downward. the Associated Metal Lath Manufacturers of the United States are largely responsible for the building of a laboratory at Cleveland to demonstrate simultaneously the relative fire resistance of various materials used in partitions. The essential part of this laboratory consists of six reinforced concrete furnaces so arranged that they can be operated under exactly the same conditions with all facilities necessary for heat measurements and observing the effects of the fire. The sample partitions after two hours' exposure to a fire that will approximate in heat to the bucket opening being then downward.

MOTOR TRUCK AND TRACTOR NEWS

The General Vehicle Co.'s Extensive | delivery service by a one-ton McIntyre truck. Business.

The complete ground floor of the General Vehicle Co.'s manufacturing building at Long Island City, N. Y., is at present covered with machines built for the American Express Co. and the United States Navy-yards. In this lot there are two 3½-ton express trucks and 25 2-ton trucks for the American Express Co. and 14 21/2-ton and 5-ton heavy express wagons for the various Navy-yards of the country. In addition to these a number of emergency wagons of 2 tons capacity have been turned out for public service corporations of New York.

Comparative Advantages of Motor Delivery Service.

manufactured by the W. H. McIntyre Co. of Auburn, Ind., and the horse-drawn vehicles which it replaced. A saving of \$911 was found to have been made in the year's operation. The charges against the truck were for tion. The charges against the truck were for gasoline, oil, repairs, driver's wages, depreciation on trucks and tires and interest, while the charges against the horse-drawn vehicles included feed, shoeing, veterinary services, driver's wages, depreciation on horses, wagons and harness with interest. The owner of the truck claimed that he was able to greatly increase his hydrogen. able to greatly increase his business through the use of the motor truck.

Motor Fire Engines for Nashville.

Delivery Service.

An appropriation of \$46,000 has been asked for by the Board of Public Works of Nash-compiled figures showing the relative cost of ville, Tenn., to be expended for motor fire-

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do. Co Ma

fighting apparatus. This step has been taken after careful deliberation and after seeing the fire engines thoroughly tested out in practice. It is estimated that one motor fire engine is equal to three horse-drawn engines. It is a well recognized fact in fire fighting that the first few minutes count to great advantage. It is thought that with the installation of the new equipment there should be a considerable reduction in fire-insurance rates, especially in residence sections, as the protection will be considerably greater than with the same number of horse-drawn engines.

Efficiency in Many Industries Quickened by the Introduction of Motor Trucks.

As a chain is only as strong as its weakest link, so is the efficiency of any industrial system greatly lessened by weakness at any vital point. The slow hauling power of draft als is now realized and recognized as a weakness in delivery systems, in the distri bution of such products as coal, ice, etc. enterprises. With this slow delivery inefficlencies at other points are not so noticeable or appreciable as when this feature of de liveries is made highly efficient With the introduction of quick delivery by motor hicles, means of increasing efficiency at other are immediately studied ov worked out, resulting in more beneficial resuits than the motor delivery alone repre-Thus the very life of enterprises adopting motor delivery service is quickened.
The merchant, in order to keep his motor trucks fully engaged, extends his business to greater distances in the suburbs and uses every possible means to increase this expanded trade: the coal dealer and the lumber man not only extend their trade, but origi nate methods by means of which they may keep their motor vehicles "on the go" with-out even delaying to load and unload by the ordinary methods. The lumber is stacked ordinary methods. The lumber is stacked on a frame fitted for lowering to the motor truck on arrival, and then away it goes to its destination, where the whole load is quickly rolled off by unloading gear. The coal is loaded into a body on stilts in the rard, and the motor truck backs up under it, issumes the weight, the stilts are secured in place, and no time is lost in reaching destination: the legs of the stilts are then lowered to the ground, one end is facked up a little, and the motor truck is off for an-other load, leaving the coal to be passed into the bin by whatever means is available, with out loss of time to the truck. Managers of storage warehouses have the furniture, etc., loaded into frames, which are easily pushed into the moving van when it backs up to the The contractor can have his bricks, etc., quickly transported, in was s made suitable for hoisting from motor truck, and landed as a whole by the building derrick at the site of his construction work, thus saving the slow process of handling each brick or tile several times in loading, unloading, carrying it to the point work where needed, etc. This not only will permit the motor truck to proceed without delay, but makes the work pro faster with less handling of material. refinements are not so valuable with slow and less efficient horse-drawn vehicle. saving is not then so much, in propor tion to the whole time involved. With motor transportation it is different, and everyone connected with the work naturally strives to the truck delivery. The time lost at ship-ping stations, depots or steamer docks, where the receivers of the goods require time to handle the freight, causing great delays to the teams, could be borne with a certain amount of equanimity where hauling was cams, could be borne with a certain of equanimity where hauling was w. But with the adoption of quick hauling by motor trucks, where a load of several thousand pounds is carried to the shipping platform in a few minutes, such delays cannot be tolerated, and naturally the transportation companies will find means to handle the goods with correspondingly less delay. The advertising feature of motor trucks is also a quickening element in many lines of business. In such cases the motor delivery not only helps to increase the busiprovides the means of handling the business expeditiously. From these provides the m evidences of the quickening power of this element of quick transportation now being apidly introduced into the industrial world it is apparent that the effects will be far reaching not only in transportation efficiency, but in the impulse to achieve increased efficiencies in other ways to reinforce the efficiency of the transportation element of a business or industry.

THE MOTOR TRUCK IN LOUISVILLE

Activity in Building and Buying Motor Cars.

[Special Cor. Manufacturers Record.] Louisville, Ky., December 12.

Louisville, like a good many other Southern cities, was rather slow to see the advantages of the motor truck. Kentucky is a State famous for its horses and mules, and the typical leaning toward the quadruped extended itself even to the solution of the problems of transportation. The attitude that was held until a few years ago was that animal power was sufficient for the needs of the merchant and manufacturer, and that the power-driven vehicle, besides being unreliable and expensive, was unnecessary.

That attitude has gradually changed to one of conviction of the utility of the commercial car,, and there are probably more trucks in use in this city at present than any other south of the Ohio River. Every line of business, almost, is taking hold of the power wagon, and though it must be confessed that the retailers as a whole have yet to adopt the system with anything like unanimity, manufacturers and large wholesaie houses which have not already put the gas or electric truck to work for them are giving the proposition a lot of careful consideration.

At present Louisville is considered one of the most important markets for commercial vehicles in this part of the country, and a great many of the leading makers are represented here. The cars which have made probably the most progress are the Packard, the Autocar and the Rapid. Other cars represented are the Kelly, the Sampson, the Reliable, the Overland, the Brush package car, etc. More cars are being bought now than ever before, and with the right sort of service beining sales there is no reason why the demand should not continue to expand.

It has long been felt that Louisville, by reason of its correct geographical location and favorable freight rates, would be an ideal location for a motor-truck factory. The South is realizing the desirability of good commercial cars, and the problem of distribution in that territory would be much simplified for the manufacturer with a plant located in Louisville. The hope that someone would seize the opportunity thus presented has been more than realized, for at present there are five manufacturing propositions in sight and several others under consideration.

In most cases the development has been along modest lines, but all are on a sound, substantial basis, and the outlook for their development into important factories, selling cars not only in every Southern State, but in the rest of the country, is sufficient to justify the prediction that Louisville will one day be the motor-truck center of the South and the Ohio Valley.

Probably the most important undertaking thus far is the electric truck department of the Kentucky Wagon Manufacturing Co. The enterprise was organized originally under the name of the Electric Vehicle Co., with Henry B. Hewett as president. A plant was equipped at Preston and College Sts. and designs drawn for a light delivery wagon of 1000 pounds capacity. Just as the first cars were being put out, however, an arrangement was made with the Kentucky Company, one of the largest manufacturers of farm wagons in the world, whereby the electric-vehicle proposition was to be incorporated as one of the departments of its factory.

This has been done, the equipment being moved to the big plant at 3d and K Sts., additional machinery being added, and the facilities of the big wagon plant brought to bear on the truck enterprise. It is now being developed, and draughtsmen are at work on new designs. Two cars are now in commission, both 1000-pound wagons, Bryce & Keller, a large clothing house, and the Kentucky Electric Co., a central station, both local concerns, haying inaugurated their use.

Mr. Hewett is general manager of the motor-truck department, and Louis Ruthenburg is superintendent and engineer. W. C. Knopf is electrical engineer. The additional designs which they are working on provide for 1, 2 and 3½-ton trucks, and these will be ready for delivery in about six months. The company will be turning out the half-ton cars on a large scale by the middle of Janu-

The present capacity of the motor-truck

department provides for the manufacture of 150 cars a year, but the company stands ready to increase the equipment and enlarge the capacity as the demand is developed. Owing to the fact that the Kentucky Wagon Manufacturing Co. had begun, before its absorption of the electric vehicle concern, to specialize in the manufacture of bodies for motor trucks, the company will have unusual facilities for giving the user the sort of body suited for his individual needs. Meeting this need is considered now to be one of the most difficult problems with which the motor-truck builder has to deal.

Indicating that the electric truck has an excellent field in connection with central stations, the Kentucky Electric Co. has equipped its "Urban" 1600-pound cars, as the Kentucky Wagon Manufacturing Co.'s trucks are called, with several devices calculated greatly to increase the efficiency. A pump, a blower, incandescent lamps and other equipment have been added, and these will be operated by motors supplied with current from the storage battery of the car. For emergency work of this electric company involving the entrance of manholes, which are frequently filled with noxious gases, the car promises to be invaluable, as it can be utilized to blow out the foul gases, light up the working spaces, etc.

The Longest Bros. Company is a Louisville concern which has been in business for three years, and has been working on a motor truck with success. The company, which started out as an automobile selling and repairing organization, found that there was a big field for power wagons, and with that in view has been developing a heavy-duty gasoline truck which would meet the needs of the greatest number. The result has been the creation of two designs, a 3-to-4-ton and a 5-to-6-ton machine. The truck is to be built entirely by Longest machinery, hardly a part being brought in from the outside. One of the most important sales thus far made, demonstrating the efficiency of the car, was to the Louisville branch of the Standard Oil Co. It has a capacity of from 3 to 4 tons, and though it has been in service for a comparatively short time, so that it is impossible to quote figures on operating costs, those connected with the company are enthusiastic over it.

The Longest Bros., Philip S. Longest, president, and W. B. Longest, secretary and treasurer, are also working on a special model for coal hauling, the design of the body having been patented. Gradual but permanent development is to be the plan of this concern.

The American Automobile Manufacturing Co. is a Louisville concern, although i the river from this city. It was organized by Louisville men and money, and George Wilson of this city is president. an excellent plant, fully equipped, and is prepared for a large production of both passenger-carrying and business The former are now almost ready for ry, but the plans for the commercial vehicles are still in the hands of the design However, it is expected that se the lighter models will be ready for delivery early in 1912. George A. Buckley recently succeeded C. D. Norris, formerly with the Studebaker Company, as superintendent of this company, and since taking hold he has been pushing work on the commercial car plans. They will consist of a 500-pound triear, a three-wheeled package wagon there has already been indicated a ong demand; a 1000-pound delivery wagon, I a 3-ton heavy-service car. These cars will all be operaed by gasoline.

The Transit Motor Car Co. was recently organized with \$20,000 capital stock by E. C. Walker, president; George Laib, vice-president, and W. B. Young, secretary and treasurer. The company is the outgrowth of the E. C. Walker Manufacturing Co., which it succeeds, and will manufacture gasoline motor trucks. As a matter of fact, it already has two cars in service, a 2-ton and a 3-ton, both being used by the Laib Company, jobers of plumbers' and mill supplies. The Walker company had been building gasoline engines and automobile parts, so the development of the truck idea fitted well into the plans of the company. The plant is located at Jackson and Lampton Sts., and will be maintained without change for the present, although Mr. Walker expects that it will be found necessary to make a number of enlargements during the next year. The design of the "Transit" is out of the ordinary, one of the features which has attracted attention being the cab for the driver. It is modeled along the lines of the typical locomotive cab, and provides the necessary protection for the handler of the car, while en-

abling him to command a view of the roadway ahead of him and on each side. The body design is also interesting, more than the ordinary extension over the rear are being provided for, so that the load capacity is developed to the maximum degree. In addition to the models which have already been noted, the Transit company will market a 4-ton car.

The Continental Car & Equipment Co, which has a large plant in Highland Park, a suburb of Louisville, for the manufacture of contractors' dump cars, which are in use all over the world, has an electric motor-truck proposition under consideration, and the first model, a big 3-ton car, left the shops of the company a short time ago. Those connected with the concern have intimated that it may be decided to manufacture the machine in one of the Eastern cities. Much interest has been aroused in the plans of the company, the detaits of which will be announced in the near future.

The situation in Louisville, from the manafacturing standpoint, indicates that while it is entirely possible for motor trucks to be produced satisfactorily upon a moderate scale, it takes a larger amount of capital than the average line of manufactured goods.

Apparently the most successful motortruck companies in Louisville are those that have developed this proposition in connection with their other manufacturing plants. The field, as far as the South is concerned, is rich and inviting, and the section below the Ohio and east of the Missispipi will in a short time be one of the great purchasing territories for commercial vehicles.

G. D. CRANE, JR.

Southwest Texas' Vegetables.

[Special Cor. Manufacturers Record.]

Laredo, Tex., December 7.

The Southern Texas Truck Growers'
Association has made public its report for
the season of 1911 regarding the shipment
of vegetables from Southwest Texas,

This city leads in the growing of onic 982 carloads having been shipped from here during the season. Coturfa is second. with 135 carloads. Laredo also leads in the amount of cabbage shipped, 64 carloads having been forwarded from here. The following is a classified arrangement of the shipments from Southwest Texas: Onions, 1859 carloads, value \$943,788; cabbage, 205 carloads, value \$23,138; potatoes, 804 carloads, value \$238,062; canteloupes, 6 carloads, value \$871; cucumbers, 67 carloads, value \$26,277; mixed vegetables, 15 carloads, value \$2705; pink beans, 2 carloads, value \$1695; tomatoes, 4 carloads, value \$916; yellow yams, 10 carloads, value \$2025; green beans, 1 carload, value \$63.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS RECORD,

Baltimore, Md., December 13. The Baltimore stock market showed improved business during the past week. In the trading United Railways co sold at 181/2; do. incomes, 611/8 to 621/4; do. funding 5s, 861/2 to 871/4; do. notes, 99% to 99%; do. 4s, 85% to 85%; United Electric Light & Power 41/2s, 93%; Consolidated Gas, Electric Light & Power common, 95; do. preferred, 991/2 to 100; do. 41/2s, 881/4 to 88%; Consolidated Gas 5s, 10914; do. 41/2s, 971/2; Seaboard Air Line common, 25; Seaboard Company first preferred, 991/2; do. second preferred, 64% to 64; Seaboard 4s, stamped, 87% to 871/2; do. adjustment 5s, 813/4 to 82; Mt. Vernon-Woodberry Cotton Duck 5s,

Md., Bethesda. - Application is reported

Md., Bethesda. — Application is reported made to the State Bank Commissioner to charter the Bethesda Trust Co.; capital \$190,000; incorporators, H. J. Hunt, 2d, M. Walton Hendry, H. Latane Lewis, Thomas Hampton, John T. Flournoy, R. C. Drum Hunt, John L. Lewis, Alfred Wilson, Dean Caldwell, William Chitty and W. E. Perry.

Md., Seat Pleasant .-- Application to charter

Md., Seat Pleasant.—Application to charter the Farmers and Mechanics' Bank, capital \$25,090, is reported made to the State Bank Commissioner; incorporators, John W. Greg-ory, Edmund S. Wolfe, W. Edward J. Wil-holte, George N. Palmer, Howard L. Christ-man and Francis P. Carmody.

Miss., Greenville.—The Ware-Brown Invest-ment Co., capital \$50,000, is reported incorpo-cated by O. C. Brown and B. W. Ware.

Miss., Waynesboro. — The First National Bank of Waynesboro is reported to have filed application for a charter; capital \$25, 909; directors, W. S. Gandy, L. S. Pitts, B. Arrington, W. C. Wetherbee and J. V. Gandy.

Mo., Fenton.-The Farmers and Merchants'

Bank of Fenton, capital \$19,000, is reported organized with directors thus: Joseph Mrag, Conrad Pfeiffer, John G. Koch and Dr. Martin Dalton, all of Fenton; F. F. Dienmer of Cedar Hill, Mo.; R. B. Denny of Eureka, Mo., and Louis Schlecht of Kimmswick.

Mo., Frederickstown.—The Bank of Madison county, capital \$20,000, is reported organized with directors thus: Frank Albright, J. M. White, Sam Mitts, W. A. Engle, W. H. Gale, R. H. Davis, S. C. Slaughter, C. A. Wagenstein, L. W. Whitener. Samuel Mitts was elected president, Frank Albright view president. J. H. Chliman and Mitts was elected president.

vice-president, J. H. Chitwood cashier, J. M. White assistant cashier.

Mo., Steele.—Reported chartered: The Cotton Exchange Bank, capital \$15,000. Among the stockholders are Lee W. Rood, R. L. Ward and Max L. Kelly.

N. C., Gastonia.-The Holland Realty &

N. C., Gastonia.—The Hoffand Realty & Insurance Co. of Gastonia, N. C., Incorporated; authorized capital \$100,000. Incorporators, B. M. Holland, J. M. Holland and P. Woods Garland, Jr. Officers: President B. M. Holland; vice-president and attorney, P. Woods Garland, Jr.; secretary and treasurer, J. M. Holland; architect, F. L. Bonfoev.

N. C., Greensboro.—The American Exchange National Bank of Greensboro is reported chartered; capital \$400,000; R. G. Vaughn, president; J. W. Scott, vice-president; F. C. Boyles, cashier; F. H. Nicholson, assistant cashier. This is a conversion of the Ameri-can Exchange Bank.

N. C., Greensboro.—The Carolina Insurance Agency, recently chartered with \$25,000 capi-tal, is about to begin business, it is reported, with officers thus: President and manager, Paul W. Schenck; vice-presidents, J. W. Scott, W. A. Hewitt: secretary and treas-urer, Lawrence J. Duffy; attorney, G. S. Fer-

Okla., Muskogee .- Reported chartered: The

Oshihoma Bank of Muskogee; capital \$190,-190; M. C. Young and W. E. Rowsey, vice-presidents; W. R. McCluskey, cashler; T. F. King and W. H. Pritchett, assistant cashlers.

King and W. H. Pritchett, assistant cashiers. Okla., Oklahoma City.—Official: The Amazon Fire Insurance Co. was incorporated and chartered in 1999; authorized capital, \$1,000,000, capital being \$173,375 and surplus \$296,470. Incorporators: R. C. Ayres, president, Dallas, Tex.; W. S. Thomson, vice-president, and C. H. Eckford, secretary, both of Oklahoma City; W. H. Gaston, treasurer; John H. Gaston, W. J. Carden and Milton Park, all of Dallas, Tex.; E. C. Stannard of Shawnee and W. F. Harn of Oklahoma City. Company is now doing business in Oklahoma and Texas.

Okla., Wagoner.—Wagoner Building & Loan
Co. is reported chartered; capital \$25,000;
incorporators, Robert C. Payne, G. F. Wagoner, Howard Searcy, Henry M. Brown,
Frank Schroyer, Matt Steil, Omer H. Ellington, Dr. M. C. Wright, W. A. Lamon and A.
C. Hunt, all of Wagoner.

S. C., Georgetown. — Official: Palmetto Building and Loan Association chartered with \$75,000 capital; began business Decem-ber 6. W. D. Morgan is president, L. S. Ehrich vice-president, J. I. Hazard secretary

and treasurer, Walter Hazard solicitor; di-rectors, the first three officers and Joseph Schenk, H. B. Springs, W. H. Andrews, S. M. Gladstone and J. M. Ringel.

Tenn., Chattanooga.-A trust company with

\$500,000 capital is reported being organized by H. S. Probasco, E. Y. Chapin, S. L. Pro-basco and D. H. Griswold.

Tenn., Conasauga.-The Bank of Conasauga,

capital \$5000, is reported incorporated by M. C. King, C. B. Benedict, John Lacy, John Byrns and T. A. Powell.

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88 82% 84 94 95 108% 1091/2 971/2 98 88 881/2 995/6 ... 92 931/4 941/4 95

B. Cox. auditor.

cashier; Samuel W. Tschudi and R. E.

Bolling, assistant cashiers, and Raymond

The First National Bank of Birmingham, Ala., reports December 5, 1911, loans and discounts, \$7,873,224; total cash, \$3,-372,253; capital stock, \$1,500,000;

plus and profits, \$1,545,411; circulation.

\$1,235,700; total deposits, \$9,372,669; total resources, \$13,653,781. W. P. G. Harding is president; J. H. Woodward

and J. H. Barr, vice-presidents; Thomas Hopkins, cashier; Thomas Bowron, F. S. Foster and J. K. Fleming, assistant cash-

iers; J. E. Ozburn, secretary savings de

banks, \$2,482,221; capital, \$1,000,000;

surplus fund, \$1,000,000; undivided profits, less dividends paid, \$234,566; circula-

tion, \$966,400; total deposits, \$8,000,966; total resources, \$12,032,951; John B. Purcell, president : John M. Miller, Jr., vice-

president and cashier; Frederick E. Nolting, vice-president; Chas. R. Burnett, J. C. Joplin, W. P. Shelton and Alex. F.

FINANCIAL CORPORATIONS.

Ala., Brewton.-The Farmers & Merchants

Ala., Brewton.—The Farmers & Merchauts
Bank of Brewton incorporated; capital \$25,000 paid in, \$40,000 subscribed. Stockholders,
E. S. Liles, J. E. Finley, C. H. Couley, L.
B. Mayo, W. A. West, M. F. Brooks, F. H.
Mason, C. F. Rankin, J. W. Atkinson, Miss
Fannie Howard, Mrs. C. F. Rankin and G.

Ark., Gentry.-The Citizens' Bank of Gen-

try, capital \$10,000, is reported organized with directors thus: R. H. Carl, J. F. Mitch ell, E. P. Rice and Thomas Lynn.

Ark., Fort Smith.—The People's Bank r ported chartered; capital \$50,000. W. Blocker is president.

Blocker is president.

Ark., London.—Official: The Farmers and Merchants' Bank & Trust Co. Incorporated; capital \$10,000; directors, L. G. Martin, president; W. H. Garner, vice-president; W. B. Wall, cashier, Mrs. Helen Wall and B. W. Porter. Business began December 1.

Ark., Reyno.—The Farmers and Merchants' Bank is reported to have begun business; capital \$19,000. Directors: T. L. Wright of Doniphan, Mo., president; V. C. Page of Little Rock, vice-president; T. J. Redwine of Reyno, cashier; J. M. Wright, Reyno, assistant cashier, and J. F. Reed.

D. C., Washington.—The Continental Trust Co., capital \$1,000,000, is reported being or-ganized by Charles A. Warden and others.

Fla., Jacksonville.-The Florida Life Insurance & Casualty Co., capital \$2,000,000, is re-ported being oganized by C. B. Willis, Geo.

Ga., Atlanta,-Official: The Bankers' Trust

Ga., Atlanta.—Official: The Bankers' Trust Co. chartered and incorporated; capital \$400. 600; surplus \$200,000; W. D. Manley, presi-dent, Atlanta; H. H. Tift of Tifton, Ga., and J. R. Smith of Atlanta, vice-presidents; W. S. Witham, Jr., treasurer; J. A. Sasser, secretary, and P. J. Baker, auditor, all of Atlanta. Business is to begin January 1.

Ga., Macon. — The York Investment Co., capital \$10,000, with privilege of increasing to

\$100,000, is reported to have made application for a charter; petitioners, Mrs. Sarah Sobel and Nat Oberndorfer of New York city and Bruce C. Jones of Bibb county, Georgia.

Ky., Jackson,—Official: The Hargis Com-nercial Bank incorporated; capital \$25,000.

Ky., Louisville.—The American Finance Co., capital \$50,000, is reported incorporated by S. E. Frist, O. H. Grimm and F. M.

Ky., Williamsburg.—Official: The Farmers'
Bank & Trust Co. Incorporated; capital \$50,900; L. P. Lacy, president, Williamsburg,
Ky.; J. T. Estes, vice-president, Pleasant
View, Ky.; T. C. Perkins, cashier, and Oscar
Bishop, assistant cashier, both of Williamsburg. Business began December 1.

Md., Baltimore. — Incorporated: Foresters Building Association; capital \$659,000. In-corporators, Jos. E. Nuse, Chas. R. Becker,

Wm. F. Welsh, Benj. F. Pierpoint and Wil-

n J. Carroll.

to check, \$3,152,609; total deposits, \$6,-517,150; total resources, \$8,573,409. H.
B. Wilcox is president; Blanchard Randall, vice-president; Wm. S. Hammond, Telewicz and Ignacy Nowackl.

J H. Hargis and others interested.

Ryland, assistant cashiers.

partment, and J. H. Wetmore, auditor, The First National Bank of Richmond. Va., reports December 5 loans and discounts. \$8,183,235; cash and due from

Washington-Vandemere 4½s.... Western Maryland 4s... Western N. C. Con. 6s... Wilmington & Weldon 4s... Washington, Balto. & Annap. 5s...

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by William S. Glenn. Broker, Spartanburg, S. C., for Week Ending December 11.

Bid. Asked.

Abbeville Cotton Mills (S. C.) Bid.
Alken Mfg. Co. (S. C.) 80
American Spinning Co. (S. C.) 160
Anderson Cotton Mills (S. C.) 160
Anderson Cotton Mills (S. C.) 160
Anderson Cotton Mills (S. C.) 92
Arkwright Cotton Mills (S. C.) 93
Belton Mills (S. C.) 92
Arkwright Cotton Mills (S. C.) 90
Belton Mills (S. C.) 105
Bragon Mills (S. C.) 105
Bragon Mills (S. C.) 90
Brogon Mills (S. C.) 90
Chiquola Mfg. Co. (S. C.) 176
Courtenay Mfg. Co. (S. C.) 176
Dailas Mfg. Co. (S. C.) 176
Dailas Mfg. Co. (S. C.) 176
Darlington Mfg. Co. (S. C.) 95
Eagle & Phenix Mills (Ga.) 117
Easley Cotton Mills (S. C.) 95
Eagle & Phenix Mills (Ga.) 117
Easley Cotton Mills (S. C.) 162
Enoree Mfg. Co. (S. C.) 176
Gainesville Cotton Mills (S. C.) 162
Enoree Mfg. Co. (S. C.) 176
Gainesville Cotton Mills (Ga.) 72
Genwood Cotton Mills (S. C.) 130
Gluck Mills (S. C.) 163
Graniteville Mfg. Co. (S. C.) 164
Greenwood Cotton Mills (S. C.) 169
Hartsville Cotton Mills (S. C.) 169
Hartsville Cotton Mills (S. C.) 169
Hartsville Cotton Mills (S. C.) 169
Harnetta Mills (N. C.) 169
Inman Mills (S. C.) 160
Inman Mills (S. C.) 160
Inman Mills (S. C.) 160
Inman Mills (S. C.) 164
Mariboro Cotton Mills (S. C.) 164
Mariboro Cotton Mills (S. C.) 165
Lockhart Mills (S. C.) 164
Mariboro Cotton Mills (S. C.) 164
Mariboro Cotton Mills (S. C.) 165
Lockhart Mills (S. C.) 165
Lord Cotton Mills (S. C.) 165
Lord Mfg. Co. (S. C.) 164
Mariboro Cotton Mills (S. C.) 165
Lord Mfg. Co. (S. C.

Bank Reports.

The First National Bank of Baltimore,

Md., reports at close of business December

5, 1911, loans and discounts, \$3,666,375;

due from banks, bankers and reserve

agents, \$2,343,498; capital stock paid in,

\$1,000,000; surplus fund, \$350,000; un-

divided profits, less expenses and taxes paid, \$\$0,735; individual deposits subject

to check, \$3,152,609; total deposits, \$6,-

77% to 77; G.-B.-S. Brewing common, % to 1; do. 4s, 35% to 35.

Bank stock sold as follows: Western, 38; Bank of Baltimore, 170; Farmers and Merchants', 53. Mercantile Trust sold at 14842; Fidelity & Deposit, 151½; United States Fidelity, 168 to 175; Maryland Casualty, 94 to 95; Baltimore Trust, 168.

Other securities were traded in thus:

and Casualty, 94 to 95; Baltimore Trust, 168.

Other securities were traded in thus: Houston Oil common, certificates, 75% to 73½; do. preferred, certificates, 69½ to 70½; Lexington Railway 5s, 96; Augusta & Aiken common, 23¼ to 23½; do. preferred, 77 to 77½; Atlantic Coast Line convertible debenture 4s, 100% to 101½; do. Consolidated 4s, 96 to 95½; Atlantic Coast Line of Connecticut stock, 257½; Maryland & Pennsylvania common, 30½; City & Suburban (Washington) 5s, 104½; Potomac Valley 5s, 107; Chicago Railways 5s, 100¼; Maryland Electric 5s, 99; Baltimore City 4s, 1961, 101 to 101¼; do. do. 1960, 100¾; do. 3½s, 1930, 95; do. 4s, 1954, 100½; City & Suburban (Baltimore) 5s, 105 to 105½; Fairmont & Clarksburg Traction 5s, 100; do. preferred stock, 82; Consolidation Coal, 99½ to 100; Georgia & Alabama Consolidated 5s, 107½; Georgia, Carolina & Northern 5s, 105¼; Macon Railway & Light 5s, 101 to 101½; Northern Central Railway stock, 126; Atlantic Coast Line 4s, certificates, 80½ to 81; Baltimore Electric 5s, stamped, 94%; Norfolk Railway & Light 5s, 99¾ to 99½; Western Maryland 4s, 87%; Baltimore Electric preferred, 42; Pennsylvania Water & Power common, 54½ to 53; do. 5s, bonds, 91; Virginia Midland 4th, 104¼; Western North Carolina 6s, 104; Macon, Dublin & Savannah 5s, 99½; Milwaukee Refunding 4½s, 94 to 94¼; Norfolk & Portsmouth Traction 5s, 89; Jamison Coal & Coke, George's Creek 5s, 92; Georgia & Florida 5s, 77; Norfolk Railway & Light common, 26; Washington-Vandemere 4½s, 96½; Georgia Southern & Florida 5s, 108; Seaboard & Reanoke 5s, 106%.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended December 13, 1911.

Atlantic Coast of Conn.
Fair & Clarks, Trac. Pfd...
Ga. Sou. & Fla...
Ga. Sou. & Fla.
Ga. Sou. & Fla. 1st Pfd...
Ga. Sou. & Fla. 2d Pfd...
Maryland & Pennsylvania.
Norfolk Rwy & Light.
Seaboard Company 1st Pfd...
Seaboard Company 2d Pfd.
United Rwys. & Elec. Co...

Bank Stocks.

National ...

Mer. & Miners' Trans. Co.
Baltimore Brick Pfd.

Ratirond Bonds.
Atlante Coast 1st 4s.
At. Coast Conv. Deben. 4s.
At. Coast Conv. Deben. 4s.
At. Cost Conv. Deben. 4s.
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Atlantic Cost S. C. 4s.
Balto. & Annap. S. L. 5s.
Carolina Control 4s.
Char. & West Car. 5s.
Carolina Control 4s.
Coal & Iron Railway 5s.
Coal & Green. 1st 6s.
Georgia Car. & North. 1st 5s.
Georgia Car. & North. 1st 5s.
Georgia Pacific 1st 6s.
Georgia Car. & North. 1st 5s.
Macon, Dublin & Savannah 5s.
Potomac Valley 1st 5s.
Sav. Fla. & West 5s.
Sav. Fla. & West 5s.
Sav. Fla. & West 6s.
Seaboard Adjustment 5s.
Seaboard Adjustment 5s.
Seaboard & Roanoke 5s.
Seaboard & Roanoke 5s.
Seaboard & Roanoke 6s.
South Bound 5s.
Suffolk & Carolina 5s.
Virginia Midland 5th 5s.

| December 13, 1911. | Railrond Stocks | Par. Bid. Asked. | Railrond Stocks | Par. Bid. Asked. | Railrond Stocks | Par. Bid. Asked. | Railrond Stocks | Rail

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D

ance'Co. is reported to have filed application for a charter; capital \$50,000; incorporators, F. M. Henry, V. A. Henry, J. Messick Hall, James B. Clark and Kenon Taylor.

Tenn., Nashville. — The United American Insurance Co. is reported chartered; capital \$1,000,000; incorporators, W. A. McGehee, R. S. Hawkins, H. D. Barry, Robert F. Keith and J. S. Robbins.

Tex., Abilene.—Official: Taylor County Abstract Co. (old partnership of same name) incorporated; capital \$10,000; Geo. C. Bishop, president and general manager; Eugene De Bogory, treasurer, and John N. Conrad, secretary.

Tex., Elkhart.—Official: The Elkhart Guaranty State Bank, capital \$10,000, expects to begin business about January 1 with J. D. Dupay president, Chas. N. Watkins cashies, B. J. Parker vice-president; directors, J. D. DuPuy, L. C. Watkins, B. J. Parker, D. S. Lively and T. M. Campens, Jr.

Tex., El Paso,—The Tobin Real Estate Trust Co. is reported organized, and expects to begin business about December 20. Frank R. Tobin will be the president; John D. Tobin of St. Louis, vice-president, and Marian S. Fuqua, also of St. Louis, secretary.

Tex., Houston.—Press dispatches state that a mortgage bank or tru-k company is being organized in the Southwest with \$10,000,000 capital; headquarters to be at Houston. The purpose of the new concern will be to develop Texas land, especially in the Gulf Coast country. B. F. Yonkum, R. F. Baker and others are said to be the promoters.

Tex., Paris.—Official: The Gibraltar Life Insurance Co. Incorporated; capital \$100,000 : surplus \$100,000. Business is expected to be gin between January 5 and 19.

Va., Fredericksburg.—The Commercial State Bank is reported to have begun business. S. W. Somerville is president and George W. Shepherd cashier.

Va., Pembroke.—Official; The Bank of Pembroke chartered; capital \$10,000. James Hoge of Pembroke, president; R. A. Gilmer of Montvale. Va., vice-president; Willie H. Snidow of Pembroke, cashier. Press dispatches say the directors include the officers and John F. Williams, J. M. Kirk, W. B. Snidow, J. T. S. Hoge, J. H. Wyse, B. Ellison, all of Pembroke, and C. L. King, cashier of the First National Bank of Pearisburg.

NEW SECURITIES.

Ala., Anniston. — Press dispatches state that the Commissioners of Calhoun county have decided not to call an election February 6 to vote on read bonds.

Ala., Marlon.—Official: Bids will be received by J. B. Shivers, Judge of Probate, until noon December 27 for \$116,000 of 5 percent. 30-year Perry county road bonds; denomination \$1900; dated January 1, 1912.

Ark., Prescott.—Reports state that Farson, Son & Co., Chicago, purchased \$55,000 of 6 per cent, 1-10 year Nevada county courthouse bonds.

Fla., Bronson,-Official; Defeated: Levy county road bonds,

Fla., Inverness.—Farson, Son & Co., New York, recently purchased, it is reported, \$15,000 of 5 per cent, 1-15-year school bonds.

Fig., Kissimmee.—December 79, it is reported, an election is to be held to vote on \$25,000 of street-improvement bonds.

Fla., Lakeland.—An official letter confirms report that an election is to be held December 39 to vote on \$150,000 of municipal improvement bonds. John F. Cox is Mayor.

Fla., Tallahassec.—Official: Voted November 28: \$30,000 of 5 per cent. 50-year street-paying bonds. A. H. Williams is clerk and D. M. Lowry. Mayor.

Ga., Athens. — Official: Defeated: Courthouse bonds. Press dispatches state that the County Commissioners have been asked to call another election next spring.

Ga., Atlanta.—Official: The \$3,000,000 of 4½ per cent. water, sewer, school, hospital and crematory bonds voted February 15, 1910, were awarded as follows: J. H. Hilsman & Co., Atlanta, \$625,000; Well, Roth & Co., New York, \$840,000, at prices ranging from 101.41 to 102.029; denomination \$1000; dated January 1, 1910; maturity, serial and 30 years. The sales were made on June 1, 1910; November 15, 1910, and July 1, 1911. John W. Grant is chairman finance committee and J. H. Goldsmith Comptroller.

Ga., Lawrenceville.—Official: The J. B. McCrary Company, Atlanta, Ga., purchased at par and \$530 premium the \$35,000 of 5 per cent. 30-year water-works bonds voted August 23; denomination \$500; dated October 1, 1911; maturity October 1, 1941. L. L. Ewing is City Clark.

Ga., Manchester.—Official: Voted December 5: \$15,000 of 5 per cent. electric-light plant bonds. James S. Peters is City Clerk.

Ga., Savannah.—Reported voted: \$600,000 of sewer, drainage and water-works bonds. George W. Tiedman is Mayor.

Ga., Sylvester.—Reported voted: \$20,000 of city improvement bonds.

Ky., Hazard.-Reported voted: School district bonds.

La., Natchitoches.—II. T. Hoitz & Co. of Chicago are reported to have recently purchased \$16,000 of 5 per cet. Natchitoches parish school bonds.

I.a., Shreveport.—Official: Voted October 17: \$50,000 of 4½ per cent, 1-20-year fire department improvement bonds; denomination \$1000; dated January I, 1911. Date of opening bids undecided. Address C. G. Rives, superintendent of accounts and finance.

Md., Elkton.-Mrs. Evelyn S. France of Port Deposit is reported to have been awarded at \$104.30 the \$25,000 of 5 per cent. 29-year Cecil county road and highway improvement bonds.

Md., Laurel.—Official: Between December 26 and 30 an election is to be held to vote on \$25,000 of 40-year bonds; interest not to exceed 5 per cent.; denomination \$190. If election carries, bids will be opened about February, 1912. Address George P. McCeney, Mayor, chairman Sewerage Commission.

Miss., Brookhaven.—Official: Blds will be received until 7.30 P. M. December 28 for \$10,000 of 5 per cent. 20-year school-building bonds; denomination \$500; dated January 1, 1912. Address R. L. Davis, City Clerk.

Miss., Edwards. — Official: January 2 an election will be held to vote on additional water-works bonds. W. M. Robb is clerk.

Miss., Magnolia.—The Wm. R. Compton Company of St. Louis has, it is reported, purchased \$12,000 of 6 per cent, 20-year sidewalks bonds at 105. A. L. Lazar is Town Clerk.

Miss., Vicksburg.—Official: The \$1500 of jail and \$5800 of bridge 5 per cent. Warren county road bonds were disposed of on December 5 at \$1500 and \$5900, respectively, to James Green and City Savings & Trust Co., Vicksburg. J. D. Laughiln is clerk Board of Supervisors. Denominations, \$100, \$500 and \$1000.

Mo., Pacific.—Bids will be received until December 20, it is reported, by A. Coppitz, Mayor, for \$15,000 of 5 per cent. water system bonds.

Mo., Kingston.—Caldwell county is reported to have authorized bonds for ditch improvements.

Mo., Webster Groves.—Official: Bids will be received until 8 P. M. December 18 for \$75,000 of 5 per cent. 20-year water-works bonds; denomination \$1000: dated November 15, 1911; maturity November 15, 1921. Address Board of Aldermen.

N. C., Apex.—Reported voted: \$10,000 of street-improvement bonds.

N. C., Durham.—Official: January 16 an election is to be held to vote on \$50,000 of school bonds; interest not to exceed 5 per cent. A previous-item gave the amount as \$5000. W. D. Carmichael is superintendent

N. C., Greensboro.—Reported defeated: The election held in Guilford county to vote on bonds in aid of proposed Randolph-Cumberland Raifroad.

N. C., High Point.—Official: Bids will be received until 2.30 P. M. January 8 for \$30,000 of water and sewer and \$20,000 of street-improvement 5 per cent. 30-year bonds; denomination \$1000; dated October 1, 1911. Address Fred N. Tate, Mayor.

N. C., Laurinburg.—Otis & Haugh, Cleveland, O., purchased at par, accrued interest and premium of \$2000, the 30,000 Laurel Hill township 6 per cent. 30-year road bonds; dated December 1, 1911.

N. C., North Wilkesboro.—The Town Commissioners are reported to have been requested to call an election to vote on school

N. C., Red Springs.—The Robinson-Humphrey Company, Atlanta, is reported to have purchased \$55,000 of 6 per cent. 30-year water and sewer bonds. A. B. Pearsall is chairman Board of Public Works.

N. C., Sanford,—Official: January 16 an election is to be held in Lee county to vote on \$100,000 of 5 per cent. road-improvement bonds. T. N. Campbell is Clerk Superior

N. C., Shelby.—Reported voted: \$13,000 of electric-light and power-plant purchase bonds.

N. C., Newbern.-Official: Bids will be received until noon January 1 for \$5000 of Craven county and \$10,000 of First township, Craven county, 5 per cent. 10-30-year County Farm-Life School, Craven county, bonds. Address Stephen II. Fowler, clerk of Board of Commissioners of Craven County.

N. C., Wilmington.—Official: The Southern National Bank and the Atlantic Trust & Banking Co., Wilmington, purchased on November 29 at 100,001 the \$400,000 of 4½ per cent. water, sewerage and street-improvement bonds; denomination \$1000; duted January 1, 1912: maturity 1952. Thos. D. Mears is City Treasurer.

Okla., Braggs.—The N. S. Sherman Machine and Iron Works of Oklahoma City is reported to have been awarded at par the \$20,000 of 6 per cent. 25-year water-works bonds.

Okla., Medford.—R. J. Edwards & Co. of Oklahoma City is reported to have recently purchased at par \$40,000 of 5 per cent. 20year Grant county school-building bonds; denomination \$1000; dated November 1, 1911.

Okla., Oklahoma City.—Steps are to be taken, it is reported, to issue \$2,600,000 of 4 per cent. 25 year funding bonds.

Okla., Okmulgee.—Regarding bonds an official letter says "nothing doing."

Okla., Pawhuska.—Bids will be received until 10 A. M. December 18 for \$169,000 of 5 per cent. Osage county courthouse and jail bonds; dated December 1, 1911; maturity 1922 to 1831, inclusive. R. A. Correll is chairman Board of County Commissioners.

Okla., Pawhuska. — Official: Bids were opened at 2 P. M. December 9 for \$50,000 of 6 per cent. 10-25-year bonds of Strike Axe township, Osage county, voted November 4, 1911; denomination \$500 or \$1000; dated November 4, 1911. Address C. S. Macdonald, attorney for board.

Okla., Shawnee. — Press dispatches state that city is about to issue \$35,000 of 5½ per cent. refunding bonds.

S. C., Kingstree.—Official: Marshall Bros., Charleston, S. C., purchased on November II, at par, \$42,600 of 5 per cent. 40-year water and sewer system bonds voted September 25, 1911; dated November 1, 1911; maturity November 1, 1951. L. P. Kinder is Mayor and Le Roy Lee chairman Board of Public Works.

Tenn., Gainesboro.—Reported voted: \$150,000 of Jackson county good-roads bonds.

Tenn., Lexington.—A Chicago firm is reported to have purchased \$50,000 of waterworks and electric-light bonds. C. G. Gattings is Mayor.

Tenn., Loudon.—The First National Bank of Lenoir City, Tenn., according to press dispatches, has purchased at \$4207 premium the \$100,000 of Loudon county 5 per cent. 30-year road bonds. Val Stockton is chairman Loudon County Pike Commissioners.

Tex., Alta Loma.—Reported voted: \$14,000 of independent school district bonds.

Tex., Anderson.—Official: On November 20 precincts Nos. 3, 5 and 6, comprising road district No. 1, Grimes county, voted \$125,000 of bonds. Hood Boone is County Judge.

Tex., Aransas Pass.—Official: Authorized: \$25,000 of street, water and light 5 per cent. 10-40-year bonds. Jesse J. Todd is Mayor.

Tex., Austin.—The Attorney-General is reported to have approved securities as follows: \$13,700 of bonds of Eastland county common school district No. 30; \$4000 of 5 per cent. 20-year Limestone county school district No. 73 bonds; \$30,000 of 5 per cent. 10-20-year bonds of Cold Springs, Sun Jacinto county: \$7000 of 5 per cent. 10-40-year Plantersville (Grimes county) independent school district bonds; \$25,000 of 5 per cent. 5-10-year Playette county common school district No. 61 bonds.

Tex., Beaumont.—Reported that bids will be received by J. G. Sutton, City Secretary, until 9 A. M. January 16 for \$50,000 of sewer, \$25,000 of street-improvement, \$25,000 of abattoir, \$25,000 of sehool and \$15,000 of jail 5 per cent. 20-40-year bonds.

Tex., Beeville.—Official: "Proposed bond issue for roads has been turned down by the Attorney-General, so consequently the whole matter is off." Dan Troy is Clerk County Court, Bee county.

Tex., Brunner.—December 20, it is reported, an election is to be held to vote on school bonds. W. P. Newman is president and August Dingelstedt secretary board of school trustees.

Tex., Dalhart.—Press dispatches state that an election is to be held in Dallam county to vote on \$100,000 of courthouse bonds.

Tex., Dallas.—W. N. Coler & Co. New York, is reported to have purchased \$300,000 of the \$500,000 of Dallas county road bonds. John L. Young is County Judge. It is said this firm also has an option on the remaining \$200,000 worth.

Tex., Decatur.—January 2, it is reported, an election is to be held to vote on \$18,000 of water, light and power bonds.

Tex., Fort Davis.—Reported defeated: \$50, 000 of Jeff Davis county road-improvement bands

Tex., Huntington.—An official letter say it is proposed to issue \$9000 of school building and equipping bonds.

Tex., Sweetwater.—Official: Bids will be received until noon January 8 for \$25.000 of 5 per cent. 20-40-year street improvement bonds; denomination \$1000. Address T. B. Tharpe, Mayor; J. W. McDugald, city attorney, or L. S. Polk, city secretary.

Tex., Victoria.—December 21, it is reported an election is to be held to vote on \$290,00 of Road District No. 2 and \$40,000 of Road District No. 1 5 per cent. 40-year Victoria county bonds.

Va., Barton Heights, P. O. Richmond.— Official: Bids will be received until December 20, inclusive, for \$29,000 of 6 per cent. 30-year bends: dated December 1, 1911. Address Thomas Armstrong, chairman finance committee, Barton Heights, 11 S. 12th Sts., Richmond, Va.

Va., Colonial Beach.—Farson, Son & Co. of Chicago is reported to have been awarded the \$37,000 of 6 per cent. 25-year water-works and sewer bonds.

Va., Petersburg.—An official letter confirms report that it is proposed to issue \$212,000 of bonds. They are 40-year 49½ per cents. Address N. T. Patteson, chairman finance committee. Press dispatches state that the Board of Aldermen has voted against the bonds.

W. Va., Fayetteville.—The special election held in Fayetteville district to vote on \$75,000 of road bonds is reported to have been defeated.

W. Va., Fairmont.—Reported voted: \$25,000 of school bonds.

At Marion, Ala. bids will be received until noon December 27 for \$110,000 of 5 per cent. 30-year Perry county road bonds. Further particulars will be found in the advertising columns.

At Barton Heights, Va., a suburb of Richmond, blds will be received up to and including December 20 for \$20,000 of 6 per cent. 26-year bonds. Further particulars will be found in the advertising columns.

At Sweetwater, Tex., bids will be received until noon January 8 for \$25,000 of 5 per cent. 20-40-year street-improvement bonds. Further particulars will be found in the advertising columns.

At Brookhaven, Miss., bids will be received until 7.30 P. M. December 28 for \$10,000 of 5 per cent. 20-year school-building bonds. Further particulars will be found in the advertising columns.

At Newbern, N. C., blds will be received until noon January 1 for \$5000 of Craven county and \$10,000 of First township, Craven county, 5 per cent. 15-30-year bonds. Further particulars will be found in the advertising columns.

FINANCIAL NOTES.

The First National Bank of Dickson, Tenn... is reported to have decided to increase its capital from \$25,000 to \$50,000.

The Avenue Bank & Trust Co., Chattanooga, Tenn., proposes, it is stated, to increase its capital to \$100,000.

The Farmers and Merchants' Bank of Spring Hope, N. C., is reported to have amended its charter, increasing its capital from \$25,000 to \$100,000. The Merchants' Bank of Augusta, Ga., ac-

cording to press disputches, proposes to increase its capital from \$140,000 to \$200,000. C. A. Griffin is cashier.

The United States Trust Co. according to

The United States Trust Co., according to press dispatches, is doing business in its new offices in the Southern Bldg., 15th and H Sts. N. W., Washington, D. C.

The conversion of the American Exchange Bank of Greensboro, N. C., Into the American Exchange National Bank of Greensboro is reported approved; capital \$400,000.

Press dispatches state that the Bank of Bristol, which recently moved from Bristol. Va., to Bristol, Tenn., is now considering the matter of dissolving its organization as chartered under the laws of Virginia, and taking out a charter under the laws of Tennessee.

Press dispatches from Little Rock, Ark, state that the German National Bank has absorbed the American Bank and the newly organized Merchants and Planters' Bank of Little Rock, Ark. The new institution will have a capital of \$1,000,000, and organization will be completed January 9.

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The Merchants National Bank South and Water Sta., BALTIMORE, MD.
DOUGLAS H. THOMAS, President.
WM. INGLE, Vice-Pres. and Cashler.
J. C. WANDS, Asst. Cashler.
JOHN B. H. DUNN, Asst. Cashler.
Surplus and Profits
Deposits, \$12,00,000
Accounts of Banks, Bankers, Corporations and Individuals solicited. We invite correspondence.

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THE FIRST NATIONAL BANK

OF KEY WEST, FLA.
United States Depository and Agent.
Capital - - \$100,000
Surplus and Undivided Profits - \$40,000 A general banking business transacted. Special attention given to collections.

IF

pour local financial institution cannot supply
your needs, consult this bank regarding the required additional facilities.

FIRST NATIONAL BANK
RICHMOND, VA.

JNO. B. PURCELL JNO. M. MILLER, Jr.
President Vice-Pres. & Cashier
Assets over \$11,000,000.00

INVESTMENT SECURITIES

Southern Stocks and Bonds Municipal and Corporation Cotton Mill Stock a Specialty

WM. S. GLENN, Broker - SPARTANBURG, S. C.

Delaware Trust Company

WILMINGTON, DELAWARE
INCORPORATING under broad, liberal, safe
nd stable Delaware laws. A fully equipped
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istration of corporations.

BANKING AND TRUST department gives pecial attention to out of town customers'

counts.

TITLE DEPARTMENT examines and gauraness title to realty throughout Delaware.
REALTY DEPARTMENT has sites for manuacturing industries. Modern Methods of
nanagement of property.
DOWARD T. CANBY, President.
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The First National Bank

17 South St., Baltimore, Md.
Capital - - - - \$1,000.000
Surplus and Net Profits - 560,000
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Resources - - 9,000 (00 pecially well equipped to handle the buisness Southern Manufacturers, Corporations and lividuals. We invite a call or correspondence. 1863-48 Years of Success-1911

OF BALTIMORE, MD.
Hopkins Place, German and Liberty Sts
Capital \$1 000,000
July 15, 1908, Surplus and Profits \$671,631.60
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We purchase SCHOOL, COUNTY and MU-NICIPAL BONDS. Southern Municipal onds a Specialty.

Write us if you have bonds for sale.

Guaranty State Bank & Trust Co.

DALLAS, TEXAS

Capital, - \$400,000.00
Surplus and Profits, 50,000.00
Deposits, - 2,500,000.00
Largest State Bank in Texas. A General sanking and Trust Business. Ask us about our % Real Estate Mortgages,

Southern Steam Railroad Securities DEALT IN

. J. LISMAN & CO.
Specialists in Steam R. R. Securities
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729 Fifteenth Street Northwest WASHINGTON, D. C.

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THE NEW FIRST NATIONAL BANK, Assets. \$6,000,000 Columbus, Ohio

JOHN C. SHORT, of New York, President EDWARD A, OLDHAM, of North Carolina, Vice-Pres. A CORPORATE FINANCIAL INTERMEDIARY

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Established 1878 Successor to John C. Short & Son Incorporated 1911

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Investment securities bought, sold or exchanged for other securities. Loans procured for Railroads, Industrial and other corporations.

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We Finance

Electric Light, Power and Street Railway Enterprises With Records of Established Earnings

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GO SOUTH!

FOR SALE Timber, Phosphate, Coal, Iron, Farm, Ranch, and other Properties and Investments, in Southern States, West Indies and Mexico.

SOUTHERN STATES DEVELOPMENT CO. (Brokers) GEO. B. EDWARDS, President, Tribune Building, New York, N. Y.

OUR catalogue will

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ADVERTISE YOUR BOND ISSUE

FINANCIAL REVIEW

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Fidelity and Deposit Co. OF MARYLAND

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Assets Over \$5,000,000

Pioneer Surety Co. of the South. Becomes Surety on bonds of every de-

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ADDITIONAL CAPITAL FOR DEVELOPMENT OF YOUR BUSINESS.

We will promptly consider applications from progressive, well established industries, steam electric railways and public service corporations. Our institution has

THE LARGEST BANKING CAPITAL IN THE SOUTHERN STATES. and during 27 years' direct Southern affiliation has been actively engaged in promoting Southern

ENTIRE ISSUES OF BONDS PURCHASED. MERGEPS FINANCED.
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The Value of a Transmission Rope

is measured by the amount of work you can get out of every dollar's worth-not by the first cost.

The essential requirements of a first-class driving rope are:

LONG LIFE

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THE LEAST AMOUNT OF ATTENTION WHEN IN-STALLED and GOOD RUNNING QUALITIES.

After years of study and experimenting with rope drives we have developed in our



American" Transmission Rope

a driving rope that combines all these requisites. IT IS NOT the CHEAPa driving rope that combines all these requisites. IT IS NOT the CHEAP-EST rope in first cost. IT IS the MOST ECONOMICAL rope to buy, as it is made of the finest quality pure, selected long fibre manila laid up in our special lubricating compound. It requires no external dressing and is stretched in process of manufacture. You will find any slight difference in first cost soon balanced by the cost of dressing required by ropes not lubricated Write as for samples and prices.

American Manufacturing Co.

Largest Workers of Fibre in the World

63-65 Wall Street

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TRANSMISSION ROPE

STATIONERY COSTS GUT IN HALF

Stationery handsomely Printed in black ink at unheard-of prices FOR CASH. Samples sent

Price per 1000 in lots of 5000 10000 25000
Six line Billheads - .85 .72 .64
Fourteen line Billheads .99 .86 .78 Statements 5 8x8 % inches Letterheads unruled, 5%x8% .92 .79 .71
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BLANK BOOKS

for first of January delivery. They are the better for the dry-Our blank book facilities are unsurpassed.

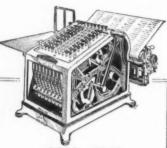
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Lithographing, Printing, Envelopes Blank Book Makers, Book Binding Letter Heads, Office Supplies Steel Die Work

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WANTED

YOUNG MAN, College education, famillar with salesmanship, who can invest large sum in manufacturing plant, would like an office position; only thoroughly established manufacturing companies considered. Address No. 906, care Manufacturers Record.



1891-1911

In 20 successful years the Burroughs has developed from a simple adding and listing machine to 78 distinct styles of Burroughs Book-keeping Machines.

There are 110,000 users today who have bought the Burroughs for one all-inclusive reason vizit makes each clerk produce more work and better work in eight hours than he could produce in twelve.

Burroughs Adding Machine Co. 80 Burroughs Block, Detroit, Michigan 1280-A

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As a business man whose business requires the use of the U.S. Mails for sending valuable merchandise have you ever considered the question of cutting down both the expense and the time of having your package registered by the Government? The Hartford Fire Insurance Company does both by its Mail Package Insurance.

For Example:

A package worth \$5.00, weight 8	B oz.	
P. O. Registration	10	
Postage, 1st class, .02 per oz	16	.26
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Send today for full information as to the cost of certificate books and method of using.

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CONDENSED REPORT TO COMPTROLLER

The First National Bank

OF BIRMINGHAM, ALA.

ALABAMA'S FIRST MILLION-DOLLAR BANK

TUESDAY, DECEMBER 5, 1911.

RESOURCES LIABILITIES Loans and Discounts.....\$7,873,224.76 Capital Stock......\$ 1,500,000.00

 Loans and Discounts
 \$1,50,224.76
 Capital Stock
 \$1,500,000.00

 Overdrafts
 282.78
 Capital Stock
 \$1,500,000.00

 U. S. Bonds and Premiums
 1,368,000.00
 Surplus and Profits
 1,545,411.75

 Circulation
 1,235,700.00

 Banking House
 190,500.00
 DEPOSITS

 CASH Individual . . . \$7,887,122.64 In Vault.....\$1,188,748.27 With Banks.. 2,106,505.33 With U. S. Bank.......... 1,383,625.08 United States. 101,921.67 77,000.00 Treasurer..

\$ 9,372,669.39 \$ 3,372,253,60

\$13,653,781.14

OFFICERS

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J. H. WOODWARD, Vice-President THOMAS HOPKINS, Cashier THOMAS BOWRON, Asst. Cashier

J. H. BARR, Vice-President F. S. FOSTER, Asst. Cashier

\$13,653,781,14

J. K. FLEMING, Asst. Cashier

J. E. OZBURN, Secretary Savings Department J. H. WETMORE, Auditor

PARTICULAR ATTENTION GIVEN TO COLLECTIONS DIRECT CONNECTIONS AT ALL ALABAMA POINTS

Manufacturers and Wholesalers

Rated \$10,000 to \$20,000 and higher.

DO YOU WANT YOUR CUSTOMERS TO DISCOUNT YOUR INVOICES?

If so, why not give us the discounts you offer to your customers for cash? You can place your credit sales upon an 80% cash basis AT THE EXPENSE OF YOUR CUSTOMERS through their not taking your discounts.

We will pay you 80% CASH AT TIME OF SHIPMENT and carry their open accounts until paid, paying you the 20% reserve, as each account is collected by you. You sell your invoices, therefore, borrow no money and have no obligation to meet as your customers

You mail your INVOICES DIRECT TO YOUR CUSTOMERS WITHOUT ANY NOTICE THEREON of the sale of their accounts to us. You act as our AGENT to collect all accounts sold us, endorsing your customer's original remittances to us, and by us to our Banks as "V. G. Dunnington, Treasurer," thereby our name does not appear thereon. We can send you Bank Drafts instead of our checks, and all publicity is avoided.

Our total charges are only 1% on the face of invoices paid within 15 days from date of our purchase, 2% within 30 days, and then 1% a month until paid. We charge NO INTEREST OR EXCHANGE on checks and carry accounts until they are SIXTY OR NINETY DAYS PAST DUE.

We are now using about ONE MILLION DOLLARS CASH in the purchase of some FIVE MILLION DOLLARS of open ac-counts a year from large and well-rated firms, whose names we keep in the strictest confidence.

Why not give our plan a trial NOW with \$5000 to \$25,000 of your present open accounts?

Manufacturers' Finance Company 709-710 Keyser Bldg., Baltimore, Md.

The only automobile built that in itself performs all the labor of electric self-starting, electric lighting, tire pumping, and the automatic regulation of fuel consumption.



The day of the suit of overalls and a repair shop experience as a necessary equipment of an automobile driver is You want a car for pleasure. You can now buy it. It is the 1912 INTER-STATE.

Distinctive Inter-State Features. You can-not find them all in any other automobile:

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RS

LONG STROKE MOTORS.

446"x5½" in "40's."

5"x6" in "50" Models.

LARGE WHEELS AND TIRES.

36"x4", "40's," 36"x4'4" in "50" Models,

DEMOUNTABLE RIMS (Set of Five).
POWER TIRE INFLATOR.
Instantly available and worked from motor power. Tire pumping labor eliminated.

MULTIPLE DISC CLUTCH. Steel and Bronze, 10" Discs, with Cork Insert Contact.

Cork Insert Contact.

LONG WHEEL BASE.

118" in all "40's."

124" in all "50" Models

TOMATIC REGULATION OF FUEL CONSUMPTION. Effected by a wonderful New Car-

VENTILATED FORE-DOOR BODIES.
HOUSED VALVES AND VALVE
SPRINGS.
Insuring Quiet Operation and Cleanliness.

IMPORTED ANNULAR BALL BEAR-

INGS.
Used wherever required.

DROP FRAME CONSTRUCTION.

Narrowed for short turning, the Drop allowing the low, straight line effect and giving great stability to car.

GASOLINE GAUGE ON DASH.

Showing at a glance the supply and rate of consumption of fuel.

The Electric Dynamo-Motor System

a part of every "40" and "50" Inter-State model, is in itself the greatest advance made in motor car construction in the past ten years

SWITCH BUTTON CONTROL-

Starts the Motor—every time—without cranking. Without danger. Without touching the clutch pedal. Without engaging any gears. Without releasing a pedal after motor starts. Just push the switch button when you are ready to start—nothing more. You can run the gasoline motor thirty minutes if you like.

Lights Entire Lamp Equipment, consisting of two powerful head lamps, two dash lamps, and a tail lamp. Also the small bulb lamps for illumination of speedometer and clock dials. The lighting system is always ready. Always efficient. No preparation to make. No gas tanks to look after and renew. No matches to scratch. No generators to bother you. Just push a button—that is all.

The Powerful Storage Batteries are automatically kept efficient and also furnish current for ignition of motor mixture. Less than one-seventh of one horse-power, drawn from the sturdy gasoline engine, when in operation, keeps the entire system in perfect condition to perform any or all its functions.

The Wonderful Inter-State Improvements have banished work and worry in motoring. Its luxurious furnishings and finish give the maximum of comfort. Its great power and strength gives the buyer unbounded confidence that the Inter-State will perform the hardest task required.

The Equipment is Complete. We furnish every accessory. Not merely top and windshield, but everything necessary, down to the cocoa mat in the tonneau.

The One Complete Motor Car

EOUIPMENT

Without extra charge, every 1912 Inter-State "40" and "50" model comes to its purchaser, with the complete electric-dynamo motor system for starting, lighting and ignition; high-grade top; slip cover; automatic windshield; a wonderful pair of search-head lights; a pair of dash lamps; combination tall light; nickel and enamel finish throughout; dimming device on head-lights for use on city streets at night; speedometer, clock and electric light combined; signal horn; air adjustment of fuel mixture on steering column; commodious leather flap pockets on inside of doors; tool outfit; cocoa mat; extra demountable rim; gasoline gauge; power tire pump, etc.

Model 40-5-Passenger, Four-Door, 40 H.P. Touring Car.

Model 41-4-Passenger, Demi-Tonneau, 40 H.P.

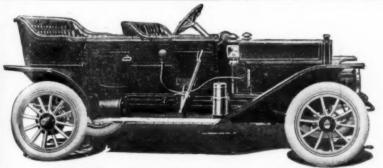
All with the splendid new en bloc motor 4½-inch bore, 5½-inch stroke, developing 5 to 8 H. P. more than rated; three speeds forward and one reverse; completely equipped with all 1912 features here mentioned.

Model 50-7-Passenger, Four-Door, 50 H.P. Touring Car.

Model 51-4-Passenger, Demi-Tonneau, 50 H.P.

Model 52—Roadster Type, 50 H.P.

All with the new "T" head 5-inch bore, 6-inch stroke motor, developing 8 H.P. more than rated by actual test; four speeds forward and one reverse; completely equipped with all 1912 features here mentioned.



Model 30A, Fore Door, 5-Passenger Touring Car, \$1750.

Note these two lower priced Inter-State Cars

Model 30-A-Fore-Door, 5 Passenger Touring Car - - - \$1750 Model 32-B-Roadster - - - - - - - - 1700

These two cars are equipped with 40 H. P. 4-cylinder L-head long stroke motor; high tension imported magneto, storage battery and timer, multiple disc cork insert completely housed clutch; sliding gear selective type transmission, three speeds forward and one re-All construction being of highest grade of workmanship and of latest improved design. Equipment consists of two gas headlights with generator, side and tail oil lamps, nickeled bulb horn and tools, combination tool and battery box, robe and foot rail; nickel-plated metal trimmings throughout. They do not have the electric self-starting equipment.

Dealers:-Write, wire or 'phone us today (our expense) for agency reservation.

INTER-STATE AUTOMOBILE CO. MUNCIE, IND.

OMAHA BRANCH, 310 S. 18th St.

BOSTON BRANCH, 153 Massachusetts Ave.

How the South's Resources May Be Increased With



RED CROSS DYNAMITE

WONDERFUL RESULTS FROM DYNAMITING SUB-SOIL FOR COTTON, CORN AND FRUIT

The future of the South is in the soil.

Whatever makes agriculture easier or more profitable has a direct and immediate bearing on the prosperity of every planter, every business man, every banker and every railroad in the whole South. This announcement, therefore, appeals not alone to the planter, but to every Southerner. It should be read through with care and its significance duly considered.

While it is an advertisement paid for and published in the interests of an industrial concern, it should not be viewed solely from a commercial point of view, but rather as pointing the way to a new era of agriculture in the South—a new era of prosperity of world-wide importance.

FARMING WITH DYNAMITE IS GREATER THAN IRRIGATION

Irrigation is for the benefit of desert lands famishing from thirst. Farming with dynamite is available for practically all land in farm territory, whether already under cultivation or not.

Briefly, here are some of the important results easily obtainable by the use of this new and great agency, dynamite.

- 1. Stump or cut-over lands can be cleared at least expense and with greatest benefit to the soil with dynamite.
- 2. Swamp lands can be ditched and drained and thus made available for cropping by means of dynamite.
- 3. Fruit trees can be planted at less cost with dynamite than with a spade.
 - 4. Dynamite-planted trees survive through dry seasons that



Subsoiled with Red Cross Dynamite.

Results of a Test of Subsoiling With Dynamite at Clarkesville, Tenn., Experimental Farm.



Moose 5-Bale-an-Acre Cotton, Gainesville, Ga. (see next page)

kill 50 per cent, or more of spade-set trees. They grow far more rapidly. They come into bearing from one to two years sooner. They continuously have a healthier growth, larger yield and better quality of fruit.

HAN

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5. Old orchards can be regenerated with dynamite and made to bear heavily.

6. Ditches can be excavated in an instant in sections from 100 to 200 feet long and from three to six feet deep much cheaper than they can be dug by hand or machinery.

7. Land that for many years has been cultivated only to the depth of an ordinary plow-cut, and the fertility of the top soil depleted, can be broken up beneath the surface to a depth of five or six feet and made to produce yields 50 per cent. and upwards better than the best yields that can otherwise be produced.

Mr. J. S. Fowler of Anderson, S. C., well known in the South as a user of dynamite in farming, while on a business trip to Columbus, Ohio, in August, 1911, was interviewed by a reporter on The Ohio State Journal. Among other things, he said: "The cotton crop in the South this year will be a record-breaker, in spite of the reports of dry weather. We are plowing deep for our cotton, and the dry weather doesn't damage us as it once did. This year streams are dry, cotton mills are closed because of failure of water-power, but there has not been any damage to the crops. New methods of farming have made us practically independent of the midsummer drouths. Cotton has never looked better than this year in all the Southern States in which I have been, and the weather has never been so dry. Under old methods of planting, the crop would have been almost a total failure. This fall hundreds of old farms will be dynamited, and next year they will raise immense crops of corn and cotton. It costs some money, but we are getting it back and have never been so prosperous."

DYNAMITE DOUBLES COTTON YIELDS

This significant statement, which at first seems wildly improbable, is based on the least remarkable of three cases of cotton crops largely increased by the use of dynamite.

SOUTH CAROLINA COTTON GROWER DOUBLES CROP BY DYNAMITING

An exceptional yield of cotton from a test plot was obtained at Walhalla, S. C., by means of subsoil blasting with dynamite. This experiment was conducted by Mr. W. R. Cobb, steward of the Oconee County Poor Farm, who relates his experience in a letter dated August 5, 1911, reading as follows:

"I wish to tell you about my experience using dynamite on part of a field of cotton. The size of the plot was 30 feet by 90 feet. The soil of the whole cotton field was given the usual cultivation before sowing the seed. I am very greatly pleased to say that the small plot of dynamited soil has shown a better crop—in fact, the yield from this dynamited soil will be, in my judgment, between 800 and 1000 pounds per acre, or more than twice as many pounds of seed cotton as will be picked from the same size of plot adjoining the dynamited plot.

"The success of this tested plot is so assured that I am going to use

adjoining the dynamited plot.

"The success of this tested plot is so assured that I am going to use dynamite on 30 to 60 acres of land now growing good crops. I feel that dynamiting the subsoil of these acres is going to result in greater crops. I figure that I can do this at a cost of four to five dollars an acre. In dry soil I use a quarter of a dynamite cartridge in holes placed fifteen feet from each other. This takes forty-nine sticks or cartridges of dynamite to the acre, approximately twenty-five pounds. My test of dynamiting the cotton plot was the means of showing me how I can make my acres grow bigger, better and more valuable crops at small cost and increase the fertility of my farm."

GEORGIA COTTON GROWER INCREASES CROP 150 PER CENT. BY DYNAMITING

This is to certify that with the use of \$35 worth of DuPont's Red Cross Dynamite, nine loads of stable manure and 850 pounds of 8-2-3 guano, I made 2½ bales of cotton of 500 pounds each and 70 bushels of cottonseed on one acre of ground. Other ground immediately alongside the dynamited acre, treated the same in every particular save dynamiting, made only one bale to the acre, while tenant's crop just across plantation roadway made only one-half bale to the acre. I am well pleased with my experiment with dynamite, and will treat other lands the same way this fall.

(Signed)

Eatonton, Ga., November 2, 1911.

(Continued on next page)

J. G. SPIVEY.

LOCAL DEALER'S REPORT ON SPIVEY'S COTTON

The Hearn & Green Hardware Company of Eatonton, Ga., write the DuPont Powder Company, under date of September 21. 1911, regarding Mr. Spivey's cotton, as follows:

"Mr. Spivey told us last week that he picked two and one-quarter bales of cotton off of the one and three-quarter acres of dynamited land the first picking, and says he will get five bales from this piece of land when he

"This cotton has been the talk of the country, and a great number of people have visited this particular spot. We are sure it is going to do your company a great deal of good in the sale of dynamite.

"One of the pictures shows dynamited cotton on one side of the road and cotton where dynamite was not used on the other. It does not do full justice, as the cotton dynamited is about five or six times as good, both in size and fruitage, as that which was not dynamited. No one can well conceive the difference unless they were on the ground like the writer was some thirty days ago."



Top View of Hole Blasted for Planting Fruit Tree (Note radial fissures.)

ALABAMA COTTON GROWER PRODUCES 41/2

BALES PER ACRE ON SUBSOILED LAND

STATE OF ALABAMA—JEFFERSON COUNTY.

Before me the undersigned authority, personally appeared J. H. Johnson, known to me, being duly sworn, deposes and says:

I have been growing cotton and helping to grow it since I was large enough to work; one bale to the acre was as much as I ever grew until I commenced to dynamite my land before planting; this year I subsoiled one acre by shooting it up with dynamite, using a half stick 11/4 in. by 8 inches every eight feet, Du Pont Red Cross LF 40 per cent. dynamite, and made 1767 pounds of lint cotton on the one acre. I had a bad storm strike it this year, which reduced the yield below what it would have been; also had worms in it: I believe that good land, thus broken, properly fertilized and cultivated, during a good crop year will produce five bales to the acre. I am now 57 years old. I made last year at the rate of $4\frac{1}{2}$ bales to the acre on another tract, dynamited in same way, the season being better.

(Signed)

J. H. JOHNSON.

Sworn to and subscribed before me this 28th day of November,

(Signed)

THOS, T. HUEY, Notary Public, Bessemer, Ala.

ANOTHER GEORGIA PLANTER SECURES A YIELD AT THE RATE OF ABOUT FIVE BALES PER ACRE BY DYNAMITING

The cotton planter who secured these extraordinary results from cotton planted in soil subsoiled with dynamite was Mr. F. V. Moose, Gainesville, Ga., who wrote the following letter under date of October 20, 1911:

I have recently had such remarkably good success with some cotton which I had dynamited with your Red Cross dynamite that I think perhaps you would like to know the results.

"I dynamited a piece of ground six rods by fourteen rods, which is slightly more than one-half acre. I have already gathered from this land ne and one-half bales of cotton, and the cotton is not half picked out yet; in fact, it is not all open.

"My method of shooting the land was to sink holes thirty inches in depth six feet apart, and after tamping, exploded one-half cartridge of 40 per cent. dynamite at the bottom of each hole. But since talking to your Mr. Wetmore I see that I had made a mistake putting the holes too close to-

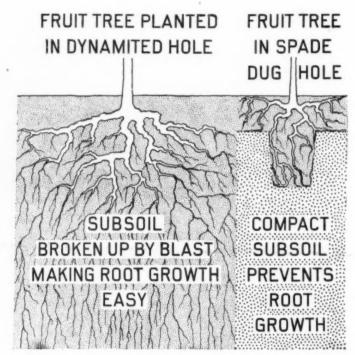


Diagram of Soil Section

gether, and feel sure that I would have gotten the same results if I had placed them fifteen feet apart instead of six.

"A number of these stalks were very heavily fruited. I remember counting one particularly on which there were two hundred and fifty-seven bolls of cotton, and I think that the crop will average one hundred and fifty bolls to the stalk.

"This yield has been a phenomenon, and the people from several coun-

ties have come to Gainesville to see this cotton "After talking the matter over with your Mr. Wetmore, I have decided that I will make it a part of my business to dynamite land for others in this community and near here, and if you will forward me these inquiries as you get them I will give them prompt attention.

"After carefully figuring over what my yield on this piece of ground will be, I place it, as a conservative statement, to be five and one-half to six bales of cotton to an acre, which will be a record for cotton raising in the South.

"These statements are absolutely correct, no guess work, and the land was carefully measured and the cotton carefully weighed and careful estimate made of that still unpicked.

"Yours very truly,
"F. V. MOOSE."

INVESTIGATOR'S REPORT ON ABOVE

October 20, 1911.

DuPont Powder Co., Nashville, Tenn.

Gentlemen:

I am enclosing you herewith statement, signed by Mr. F. V. Moose, concerning the yield of cotton from land dynamited with our Red Cross dynamite. I drove out this morning to Mr. Moose's farm, and after looking at

the cotton and measuring up the land, I know that Mr. Moose's statements are correct.

Mr. Moose was an old gold miner from the Dahlonega section, and understood the use of dynamite, and this is what helped him to make such a big crop. Mr. Moose is a man of most excellent reputation in this community, and whilst a poor man, he is well thought of by everybody.

I am sending also two photographs each of two different views of this cotton field, which were taken just before the cotton was to have been picked. I send two, because I thought perhaps you would need fully that many. I can get more of them if you so desire.

The U. S. Government has had a man here to look at this crop. The people from over the counties within a hundred miles have been to look at it. The Atlanta Constitution has sent a special correspondent up here, and photographs and statements concerning the enormous yield will be published in their paper some time during the month of November. One of the Philadelphia papers is also going to publish a statement concerning it, a local correspondent having furnished them with the information.

Taken altogether, this is the most stupendous yield of cotton known in the history of cotton raising, and if every farmer could do one-half as well, it would revolutionize cotton industry in the South.

I want to therefore urge that our advertising department at once make use of these photographs and letter which I am sending, and see that this is distributed fully throughout the South.

Yours very truly, (Signed) R. S. WETMORE.

SWORN STATEMENT OF VIRGE MOOSE

GEORGIA-HALL COUNTY.

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Personally appeared before the undersigned Virge Moose of Gainesville, Hall county, Georgia, who, on oath, says that he has for thirty years been a miner, and is familiar with the use of dynamite; that, at the suggestion of J. H. Hunt, a well-known banker and capitalist of Gainesville, Ga., he planted one-half acre of arable land within the corporate limits of Gainesville in cotton in the spring of 1911; that before planting the seed he first dynamited said land, "blowing it up" to the depth of four



Six-year-old Apple Tree Planted Wit Dynamite—Waynesboro, Va.

feet; that, up to date, from the said one-half acre he has picked one and threequarter bales standard size cotton, and is still picking. He further states that it is his honest belief that this said one-half acre will produce two and one-third bales to two and one-half bales of cotton this season, or practically five bales to the acre. He further states that, desiring to change his occupation from that of miner to that of cottongrower, he was led to make this experiment and to find out the most profitable way to grow cotton; that he be-

lieves any land, however poor, will double its yield if the land is properly dynamited, and in a short time become restored to a selfproductive soil.

(Signed)

VIRGE MOOSE.

Sworn to and subscribed before me this, the 9th day of November, 1911.

(Signed)

R. W. EVANS, Notary Public, Hall County, Georgia.

This Coupon Gets Information Every Cotton Planter Needs.

Fill In and Send It Now

WHY YOU SHOULD ACT AT ONCE

The best time to subsoil is in dry weather, immediately after harvest. The porous soil can then absorb and hold all the water of fall, winter and spring rains to sustain vegetation during the long, dry summer.

Subsoiling should not be done when the ground is wet through, because the blast tends to throw clods of subsoil out on the top soil, which is not desirable. In dry soil the shattering effect is greater, and is confined to the subsoil.

Subsoiling should be done only about once in five years. The deep growth of roots and circulation of air and moisture in blasted ground keeps it porous.

MODERATE, PERMANENT INVESTMENT—BIG, QUICK RETURNS

The letters in this advertisement prove that subsoiling cotton lands with DuPont Red Cross Dynamite pays for itself within

the year. Mr. Cobb used \$5.00 worth of dynamite and increased the yield 400 pounds. Mr. Spivey used \$35.00 worth and increased the yield 750 pounds. Mr. Moose used about \$10.00 worth of dynamite on a half acre and got an excess yield of about 21/4 bales over the normal yield per half acre of one-half bale.

Although reports are coming in from farmers all over the country as to largely increased yields of dynamited corn, oats, tomatoes, beans and other important crops, and splendid results in tree planting and



Six-year-old Apple Tree Planted With Spade-Rose Cliff Fruit Farm, Waynesboro, Va.

orchard regeneration, none of these branches of agriculture show such wonderful cash returns as with cotton.

GRASP THIS GREATEST OPPORTUNITY FOR PROFIT

Subsoil this year as much land as your finances will permit, and finish the rest of your plantation next year.

It means big crops, more money, a permanently improved plantation.

It means triumph over the animal pests and disastrous drouths,

It means greater prosperity for the South.

COTTON IS KING

when DuPont Red Cross Dynamite is "the Power Behind the Throne."

CUT OUT, FILL IN AND MAIL THIS COUPON

E. I. Du Pont de Nemours Powder Co., Wilmington, Del.

Gentlemen:—Please send me, free, full information about the use of Red Cross Dynamite for the work before which I have marked X, and Cotton Folder No. 125.

SUBSOIL PLOWING
BREAKING UP HARDPAN
TREE PLANTING AND CULTIVATING
DITCHING AND EXCAVATING
DRAINING SWAMPS
STUMP BLASTING
BOULDER BLASTING
ROAD MAKING

Name
St. and No. or R.F.D
P. O State State
Where is your plantation located?
In what town do you trade?Name of storekeeper?

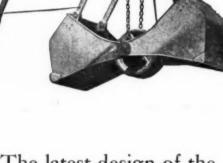
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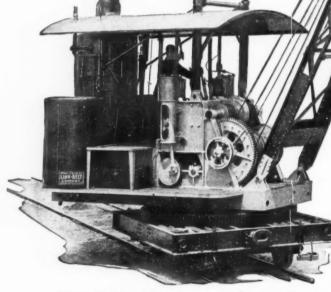
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Grab Bucket

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EASE OF OPERATION

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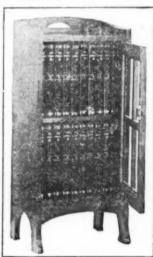
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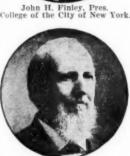
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John Hays Hammond, International Mining Authority.

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The 1911 India Paper Edition

The paper on which this addition is printed is opaque, yet so thin that each volume bulks only one inch, as against the three-inch bulk of the old style reference volume. The entire set of twenty volumes takes up but twenty inches. It can be kept upon the office desk or library table for ready reference, and read as conveniently as a magazine.

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Classified Opportunities

WANTED—Traveling or local men; all sections of the country; profitable side line; commission or salary; good men average \$160 weekly. For particulars address The Sun Chemical Company, Richmond, Va.

AGENTS WANTED to sell lubricating oils, belts, hose, paint, varnish, to contractors, auto owners, mills, factories, etc. Exclusive territory to right party. Oil experience unnesessary. Manufacturers' Oil & Grease Co., Cleveland, Ohlo.

SALESMAN.—An excellent opportunity for a bright, snappy salesman to represent, on a strictly satisfactory commission basis, a first-class leather belting manufacturer, with specialties. No use for any but good men, and references must accompany application. The Ulmer Leather Co., Norwich, Conn.

SUPERINTENDENT WANTED for toma-to canning factory to be erected at this place. Address O. N. Richardson, care of Rome Soil Pipe Co., Rome, Ga.

WANTED—A partner in canning factory at Des Arc, Arkansas; factory new; operated from June to November on tomatoes; November to March on sweet potatoes and pumpkins; want practical man with \$350. Write for full particulars. Emmet Vaughan, Des Arc, Arkansas.

WANTED-A young and competent architect, who is good on perspective and design to buy an interest in a well-established office doing a good business and with good prospects. Address No. 916, care Manufacturers Record.

WANTED—By financial corporation in New York city engaged in the sale of securities and other financial negotiations, a Southern business man, 25 to 50, of high character and standing, wide acquaintance in banking and investment circles in the Southern States. This is an exceptional opportunity to establish a very desirable connection in the great money center for the right man with a talent for finance and negotiation seeking a larger field for his abilities. A business proposition will be made that would justify his attention. Correspondence will be treated in strictest confidence. Address No, 912, care Manufacturers Record, Baltimore, Md.

A LIVE, up-to-date hardware man wanted to subscribe \$5000 or \$10,000 worth of stock in a first-class hardware and implement business, established eight years, to be incorporated at once at \$75,000 in a thriving new city in Oklahoma, population 35,000; great surrounding resources for wholesale and retail; water, freight rates; no competition; one hundred small towns and surrounding country to draw from: all employes must be stockholders; first-class reference required. Address Forrest Hardware Company, Muskogee, Okla.

AGENCIES WANTED

WANTED — BUILDING SPECIALTIES, MATERIALS AND SUPPLIES OF ALL KINDS for exclusive selling agency this section; commission basis; first-class accounts only considered; young man; energetic, highest references, and will produce results. Address "A," P. O. Box 1274, Atlanta, Ga.

AGENCIES WANTED FOR EXPORT-anufacturers' agents in New York doin wish to increase their foreign business lress No. 914, care Manufacturers Rec

SITUATIONS WANTED

DREDGE SUPERINTENDENT, thoroughly experienced on drainage work, technical education and a practical mechanic, good organizer and a hustler. Address No. 898, care Manufacturers Record.

YOUNG ENGINEER (26), 7 years' experience on dams, municipal work, highways, sewers and water-works; experienced as inspector of sewer and highway construction; best references; location immaterial; immediately available. Address No. 896, care Manufacturers Record.

ASSETS, health, energy, integrity, 25 years' broad business experience; qualified detail man, corporation sceretary-treasurer, auditor, account systems manager; coal, machinery, manufacturing; highest class references; want position South with large concern or as Southern representative. Address No. 508, care Manufacturers Record.

POSITION WANTED by a thoroughly com-petent double-entry bookkeeper and general office man, 28 years old; over 10 years of fine business experience handling accounts of cor-porations and individuals; would consider taking some stock in good business; good penman; operate typewriter; habits fine; now employed; good reason for wishing change; very reasonable salary to begin; references and bond given. Address Lock Box No. 134, Elizabeth City, N. C.

EDUCATIONAL

RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.—Courses in Civil, Mechanical and Electrical Engineering, and General Science, leading to the degrees of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Bachelor of Science (B.S.). Special courses in engineering and science. Splendidly equipped new engineering laboratories. Send for catalogues to Begistrar.

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 24 lines. Allow seven words per line. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year, as follows: 100 lines, 18c. per line; 300 lines 16c. per line; 500 lines or more, 15c. per line.

WASHINGTON COLLEGE FOR YOUNG LADIES.—Located at the nation's capital, with all the attendant advantages, both educational and social; in the city, but with a campus of 10 acres; charming home life; an ideal school in every particular. Write for catalogue. F. Menefee, President, Third and T Streets N. E., Washington, D. C.

THE PALMETTO NATIONAL BANK, Co-lumbia, S. C., capital \$250,000, solicits ac-counts of banks, firms, corporations and indi-viduals, either commercial orsavings accounts.

CAPITAL WANTED

CAPITAL WANTED WITH GOOD MAN to complete development high-class residence section within four miles large fast-growing Southern city; own plenty land in immediate neighborhood; beautiful country; club, large lake and car line; pretty elevation and scenery; big business already on books; best prospects any development company in the South; invite investigation; references exchanged. Address No. 907, care Manufacturers Record.

BUSINESS OPPORTUNITIES

WOOD AND COAL YARD with all equipent; good lee business in summer; good argain to quick buyer. Address F. H. Irononger, Expo, Va.

FOR SALE—Hosiery mill in the hustling town of Marion, N. C., or controlling inter-est; 25 machines, comparatively new; can be bought at a bargain on satisfactory terms. Address J. W. Streetman, Marion, N. C.

I WOULD like to buy electric-light plant or water-works in Southern town; would consider site, with franchise for new plant, n replying, state price, term of franchise, te. Address No. 911, care of Manufacturers

WANTED—By a young man with six years' experience, a partner with at least five thousand dollars, must be young and a good business man, to enter into first-class contracting business in a Southern city; best of references given and required. Address No. 915, care of Manufacturers Record.

MONEY, AND LOADS OF IT.—If you own land near a thriving city and will cut your acreage up into town lots and allow us to sell your subdivision by our original red-tag plan, we'll take the lots to the mint and coin them into money for you. Owners only need write for terms and full particulars. The F. J. Raymond Realty Co., Evansville, Ind.

F. J. Raymond Reatty Co., Evansville, Ind.

FACTORIES LOCATED, factory buildings in the principal cities to rent, factories, sawmills, flour mills, warehouses, real and personal property sold or exchanged. Timber, grazing and farm lands sold or exchanged. Timber, grazing and farm lands sold or exchanged. Office space, desk rooms and Chicago addresses arranged for. High-class manufacturing stocks and bonds for sale and exchange. Offer what you wish to sell, inquire for what you wish to buy. Negotiations confidential. Business promptly executed. Correspondence invited. Kreis & Company, 167 W. Washington street, Chicago, Ill.

Washington street. Chicago. III.

500 ELECTRICAL HORSE-POWER TO LEASE.—This power is obtained from the Gonzales Water-Power Co.'s reinforced concrete dam of five turbine wheels, with a canacity of 800 horse-power. The dam is located on the Guadalupe River, within onequarter of a mile of the town of Gonzales, a city of 4000 inhabitants, with two railroads, and within 60 miles of the capital of the State, and 75 miles cast of San Antonio, and 100 miles west of Houston, and within 60 miles of the capital of the state, and 75 miles cast of San Antonio, and within 60 miles of the capital of the State, and 75 miles cast of San Antonio, and 100 miles of the extensive Texas coast. Our manufacturing interests consist of an extensive brick plant, water-works, electric-light plant, 500-spindle cotton mill, and with gravel beds and other building material cheap and inexhaustible, electric-power ample, are all advantages well worth considering in the location of any manufacturing in terest which this town has unusual inducements to offer. Anyone who may be interested in this matter will please write to the company named below. Gonzales Water-Power Co., Gonzales, Texas.

WANTED—Man with a little money and plenty of push and get-up to join me in the best land and town-lot proposition to be had anywhere, take charge of same, develop and put it on the market; located in the great health-giving section of North Carolina, on the A. C. L. R. R., with station on the property, near Southern Pines; big future for someone to make plenty of money; very fine location for hotel and store. So if you want to combine health with wealth, write me for full information. A. L. Bain, Greensboro, N. C.

AUTOMOBILE FOR SALE

FOR SALE-White Steamer touring car; five-passenger; fully equipped; price right. Address Frank Whitten, Blackfoot, Idaho.

MAPS AND BLUE PRINTS

MAPS OF TEXAS COUNTIES.—We make blueprint maps of nearly all Texas counties and several Louisiana parishes. Write for prices on those desired. Singleton Bryan & Co., Beaumont, Texas.

TYPEWRITERS

IF YOU are interested in purchasing a high-grade typewriter and no not care to invest \$100 asked by the manufacturers, we would like you to investigate our remanu-factured machines. Three days' trial al-lowed. Enterprise Exchange, Inc., 609 E. Baltimore street, Baltimore, Md.

ICE MACHINES

WANTED-To correspond with parties de-iring or contemplating installing absorption ee machines. Consolidated Ice & Power Co., aldosta, Ga.

FACTORY SITES

FREE SITE.—I will give a fine level one-acre tract or lot on the Southern Railway at Warrenville, Alken Co., S. C., joining lands Warrenville, Alken Co., S. C., joining lands Warren Mrg. Co., and in 500 feet. of the mill, 1000 feet of depot, ¾ mile of Graniteville Mills, in the center of Horse Creek Valley, a fine cotton manufacturing section, where labor is pientiful and cheap, health good. This offer is to any manufacturers that will invest \$10,000, not less. Come South with hosiery, knitting, or any kind of manufacturing. Don't ask questions. First one comes gets it. So grab your hat and see J. M. Polatty at Warrenville, S. C.

INDUSTRIES WANTED

MISCELLANEOUS

SUFFOLK.—The best manufacturing and distributing point in Virginia; six railroads and water transportation; plenty of labor; cheap fuel; electric power; seventy manufacturing plants in successful operation; opportunity for furniture and woodworking plants and any wholesale jobbing or manufacturing business; center of tidewater; richest farming section to be found; healthy; excellent schools and churches; filtered water, gas and sewer. Write Board of Trade, Suffolk. Va.

CLEVELAND, TENN., WANTS YOU.—The best town in the Southeast, with a hydroelectric development of 32,000 initial horse-mower for manufacturing purposes, final development 82,000 horse-power. Free manufacturing sites; exemption from city and younty taxes; ample railroad facilities; spring water pumped to all parts of the city; cheap raw materials; 186 miles of pike roads in county; fine farming and trucking section; best of public utilities; cheap white abor; cheap power; ideal location for coton mill, furniture factory and brick-manuacturing plant; good climate; most rapidly leveloping city in the Southeast. Write commercial Club, Cleveland, Tennessee.

WANTED.—Asheville, N. C., 31,000 population, including suburbs; 38 miles paved streets; best water on earth; men with capital to invest in money-making enterprises; good opening for manufacturing enterprises. Write Board of Trade.

VICTORIA, TEXAS, head of navigation of Guadalupe River; center of cotton, corn, truck and citrus fruit-growing district of South Texas; country rapidly developing; opportunities for many industries. If interested in the coastal section of Texas, write for booklet "D" to the Secretary of the Progressive League.

CRATE AND BOX FACTORY

FOR SALE AT A BARGAIN.—Crate and box factory, situated near center famous Chattanooga berry district; capacity of plant over hundred thousand packages annually; demand five times capacity; timber plentiful; white labor; conditions ideal; legitimate reasons for selling. Price and terms given on request. Box 25, Graysville, Tenn.

PLANING MILL AND BOX FACTORY

combine health with wealth, write me for full information. A. L. Bain, Greensboro, N. C.

GOOD OPPORTUNITY is offered to active man in established manufacturing business at Norfolk, Va.; only a small amount of capital required. Address A. L. Fry, Nerfolk, Va.

FOR SALE—Flour mill; fine stock company proposition; fine grain belt; fine shipping facilities; \$5000 cash; balance terms; particulars on request. J. Q. Ketner, Pikeville, Bledsoe Co., Tenn.

FACTORY BUILDING

FOR SALE—One-and-one-half-story factory building in Havre de Grace, Md.; frame; 7000 square feet floor space; splendid light; large lot; electric power very cheap; rail-road siding; boat to principal points; every convenience; splendid chance for quick buyer. Do not answer unless you mean business. Baseler & Heineken, Inc., Camden, N. J.

MINERAL AND TIMBER LANDS TER POWERS AND MISCELL NEOUS PROPERTIES

WRITE for list New Orleans residence lots and factory sites; Louisiana mineral, timber, cut-over and farm lands. Orient Co., Ltd., 513 Audubon Bidg., New Orleans, Louisiana.

LAND FOR SALE.—400 acres, % mile from Wilmington, N. C.; bounded on north by Smith's Creek, south by macadamized public road, and is traversed by Atlantic Coast Like Raiiroad; part is underlaid with lime and phosphate rock; about 250 acres under cultivation; suitable for manufacturing sites, farming, colonizing or suburban development; delightful cilmate. For particulars address L. M. Noble, P. O. Box 482, Wilmington, N. C.

L. M. Noble, P. O. Hox 482, Wilmington, N. C.

FOR SALE—Boundary of 256,000 acres in
State of Durango, Mexico; good ranch, misseral and timber land; contains 500,000,000 feet
yellow pine; railway building within 25 miles
of lands; 25-mile tramway to new railway
can be built at small cost; 100 miles to
Pacific port of entry by rail, for ship-loading for use of Panama Canal route and for
all American and European shipping markets. We control and can deliver prompty
this valuable boundary for 25.50 per acre;
one-fourth down; one, two and three years
for balance. Principals only need reply. Address for particulars, J. C. Lindley, Greensboro, N. C.

\$100,000 FOR SALE FOR \$35,000.—I have an addition to a live, fast-growing Gulf Coast city, consisting of 1340 lots, beginning within six blocks of the business center of the city, three trunk lines of railroads; already the best city in the county and one of the best counties in the State; lots selling at \$150 each; have over 400 sold and bills receivable for same amounting to \$53,000; have big agency force selling these lots; other business demands all of owner's attention. Will sell for \$50,000, turning over promissory notes and everything connected with the proposition. Don't write unless interested. Commercial Club, Eagle Lake, Texas.

FACTORY SITES, Business Property, Residences and Farms. If interested in the metropolis of the Southwest or its territory, write for free land list and booklet on Houston, Texas (where 17 railroads meet the sea), or make your wants known. Bank references if desired. Central Land Co., 303 Theater Bidg., Houston, Texas.

BIGGEST BARGAIN IN ALABAMA— 50,000 acres of hardwood timber, iron and coal land; Illinois Central R. R. runs through property; \$12 per acre. Henry Scharffetter, 217 St. Paul St., Baltimore, Md.

TOWNSITE FOR SALE, surrounded with orange and fig gardens now under way, in the rain belt of the Gulf Coast Country, Brazoria country, Texas; depot, school, church and store now on the ground; sumer, winter and health resort; rail and water transportation; fishing and hunting. Write for plat, price and terms. Address The Evener, Liverpool, Texas.

2300 ACRES Florida cypress timber land, containing excellent mill site, on navigable water; \$30,000 in fee; timber rights 415,00. C. N. Joyce, 363 Calvert Bidg., Baltimore, Md.

FOR SALE—2200 acres of timber land in Liberty county, Georgia, located one-half mile from Ludowica, known in the Cierk's office of the said county as the Charles Tutty estate, R. O. Tutty, executor.
About 1600 acres of this timber has not been timbered for 55 years; 1000 acres are now virgin turpentine. The Atlantic Coast Line runs through this tract of land.
For terms and particulars apply to the Laborers & Mechanics' Realty Co., Inc., sole agents, 2006 11th St. N. W., Washington, D. C.

20,000,000 ACRES of timber land for sale; 10,000,000 acres of all kinds pine, popiar and hardwoods in the South; 10,000,000 acres in Mexico and Brit. Col.; cut as much as 75,000 feet to acre; some tracts have 225 different kinds of wood; will co-operate with good agents. J. C. Bolinger, 117 W. Washington St., Hagerstown, Md.

WEST VIRGINIA TIMBER TRACT, 15,000,000 feet virgin timber, directly on railroad, with low rates to all markets. This will be sold at a bargain. No agents. Address No. 904, care Manufacturers Record.

FOR SALE—Two tracts of hardwood timber, consisting of poplar, all kinds of oak, chestnut, hemlock, cucumber, ash, lynn, etc., mostly virgin forest; one tract on Norfolk & Western and other on Carolina, Clinchfeld & Ohio Rallroad, in Southwest Virginia; about 10,000,000 feet in both tracts. D. C. Lampkin & W. W. Bird, Carterton, Virginia.

00,000

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Classified Opportunities

TIMBER FOR SALE

FOR SALE — 40,000,000 feet of first-class ardwood and cypress, situated right on a allrond. Apply to E. J. Iles, Alexandria, La.

FOR SALE—10,000 acres round timber, Southern Alabama; will cut 50 crops boxes; 600 to 5000 feet lumber to acre. Price, \$10,000 per acre for turpentine-sawmill privilege, \$15,00 per acre fee simple. Address R. A. French, Florala, Ala.

CUT-OVER TIMBER LANDS

FOR SALE-10,000 acres cut-over lands on Gulf coast; price \$6 per acre; terms, one-fourth cash; balance 1, 2 and 3 years, sub-interest. Apply to P. L. Weeks, Enville, Fla.

CUT-OVER TIMBER TRACTS.
50,000 acres cut-over pine lands, Miss... \$6.50
50,000 acres cut-over pine lands, La... 6.00
50,000 acres cut-over pine lands, La... 6.00
50,000 acres cut-over pine lands, La... 4.50
Marsh Lands for Reclamation.
60,000 acres in a body, Guif Coast of La. 3.00
Timber Lands.
7,000 acres La. Y. pine, Fia., cut 3500 ft. 7.00
6,000 acres La. Y. pine, Fia., cut 7000 ft. 21.00
6,000 acres La. Y. pine, Fia., cut 7000 ft. 21.00
6,000 acres hardwood, cut 10,000 ft. 60%
red gum)... 19.00
Finest red gum proposition South.
Wm. R. Taylor, 508 Perrin Bidg., New Or-

10,730 ACRES Louisiana hardwood timber lands, 104,600,600 ft., on Sabine River, \$15 acre, 20,000 acres rich dark bottom cut-over hard-wood, S. W. Arkansas, lands on Ry., \$6 acre, 36,000 acres Louisiana cutover lands, \$5 acre, Robert Sessions, Winthrop, Ark.

FARM AND TIMBER LANDS

FARM AND TIMBER LANDS.—We have attractive offerings in farm, yellow pine and hardwood timber lands. We also handle coal and ore properties. Correspondence from interested parties invited. Provident Trust & Security Co., Land Dept., Walton Bldg., Atlanta, Ga.

ARE YOU INTERESTED IN LAND? If so, would like to send you descriptive lists of the best farm and timber lands on earth, in Arkansas, Mississippi and Louisians; land rents from \$5 to \$12 per acre; prices from \$10 per acre up. Hurst Trust Co., Nos. 3 and 4 Porter Bidg., Memphis, Tenn.

WRITE THOMAS H. JONES for alfalfa and cotton lands; also timber lands. Greensboro, Hale county, Alabama.

ARKANSAS hardwood timber tracts; in touch with owners; have some bargains; colorization proposition, Yell county, 15,000 gres, at \$5; timber enough to pay out. Fred-ficks Realty Company, Springdale, Ark.

I HAVE BARGAINS IN TIMBER TRACTS, large colonization propositions, cut-over lands and reclamation tracts in any size wanted up to 150,000 acres from \$2.50 per acre up.
Wm. R. Taylor, Land and Timber Investments, 508 Perrin Building, New Orleans, La. Established 1898. Sales over \$6,000,000.

ALL EYES TURNED TOWARDS ALA-BAMA'S farm and timber lands. The Panama Canal will soon be finished, and with 1990 miles of navigable rivers in Alabama the markets of the world will be at our gate—the Mobile port. Lands will soon double in value. We have 400,000 acres farm, fruit pasture and timber lands from Tennessee to Mobile Bay at prices that will Interest. Let us write you; better still, let us show you. Agencies throughout State. Alabama State Agricultural Land Co., Home Office, Center, Ala.

FOR SALE - 12,200 acres rich Arkansas land; 5,000,000 feet choice hardwood timber guaranteed on this tract; on railroad, near Memphis. Plat, price and terms on application. Address St. John & Olcott, Owners, 46 Porter Bidg., Memphis, Tenn.

COAL LANDS FOR SALE

COAL LAND.—1200 acres of No. 8 Ohio-Pittaburg coal. This coal is located on the boundary line of Belmont and Monroe coun-ties. All the surrounding coal is owned by Pennsylvania people. I would agree to take in a stock of goods or a large tract of land in Arkansas, Oklahoma or Texas as part pay. This tract is worthy of investigation. My terms and price will be satisfactory. For further information address Lock Box No. 69, Canton, Ohio.

VALUABLE COAL TRACT FOR SALE.—A 4500-acre tract of coal land, located in East Tennessee, containing six workable surface veins of high-grade coal, suitable for steam, domestic and coking purposes, besides several excellent workable veins under the surface. The property is now within four miles of a railroad, and a charter for a new railroad has recently been taken out, the proposed route being through the center of this property. There is between 12,000,000 and 15,000,000 feet of merchantable hardwoods on the tract that can be cut and marketed at a handsome profit just as soon as this new road is completed. The price on the property is 445 per acre, all cash, or \$50 per acre on terms. Blueprints and engineer's report will be furnished genuine buyers who can show financial ability to purchase such a property. Correspondence solicited with principals only; no agents. Address Albert F. Lee, 216 Sixth Ave., Nashville, Tenn.

FOR SALE—5000 acres coking coal land in Eastern Kentucky; accessible to railway by spur of six miles; carries also cannel coal seam; title perfect: can arrange to show land any time. Address No. 913, care Manu-facturers Record.

COLONIZATION LANDS

FOR SALE—7000 acres, 30 per cent. tillable, 1800 acres in cultivation; 14 rent houses; located in two miles of loading switch and four miles of county site town; all fenced and cross-fenced. Price \$12.50 per acre. This is the best bargain in Central West Texas; extra colonization proposition. B. M. Durrett, Hamlin, Texas.

FARMING LANDS

WE OWN and offer for sale on easy terms more than 100,000 acres of farming lands in Louisiana and Mississippi. Anyone interested in Southern investments should write us direct and save the middleman's profit. The Lampton Realty Co., 405 Hibernia Bank Building, New Orleans, Louisiana.

FARM AND BANCH LANDS

90,000	acres	Durango,	price	\$1.75	per	acre
		Coahulla,	price			
		Chibuahua,	price	3.00	per	acre
100,000	acres	Sonora.	price	3.00	per	acre
375,360	acres	Durango,	price	3.00	per	acre
162,783	acres	Chihuahua,	price	2.00	per	acre
		Durango,	price	3.00	per	acre
		Coahulla,	price	1.50	per	acre
		Chihuahua,	price	2.50	per	BCF
		Chihuahua,	price	2.00	per	acre
		Tamaulipas,	price	3.50	per	acre
		Chihuahua,	price			acre
		Chihuahua,	price			acre
		Tamaulipas,	price			acre
		Tamaulipas,	price			acre
		Coahulla,	price			acre
		Tamaulipas,	price			acre
		Sonora,	price			acre
		Sonora,	price			acre
		Durango,	price	4.50		
		Durango,	price	2.00		
			price	5.50		
Cass &	Fry, 3	0 City Nation	nal Ba	ink B	uile	ling.
		El Paso, Te	XSS.			
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RANCH FOR SALE

NEW MEXICO RANCH FOR SALE.—
Forty square miles, near Las Vegas; altitude about 600 feet; cool summers; mild winters; soil sandy loam and clay loam, very best for sugar beet growing; perpetual free water rights, 3i miles irrigating ditches; 64 miles wire fencing, cedar posts; 1000 acres alfalfa, plow land, pasture, timber, orchard, grist mill, 23 H. P. W. P., store building, postoffice, warehouse, icchouse, smith shop, cribs, barns, stables, 16-room dwelling, foreman's house, miller's cottage, 10 houses for help; under present management alfalfa crop produces \$25,000 annually; store, mill and warehouse, \$25,000 annually; store, mill and warehouse, \$15,000; cattle, grain and orchard, additional revenue; under intelligent, economical management returns can be largely increased. Price \$275,000; \$137,500 cash; balance as may be mutually agreed upon; title perfect; complete report in office. Benajah White, Agent, 109 N. 7th St., St. Louis, Mo.

PECAN ORCHARDS

VALDOSTA, GEORGIA, PECAN PLAN-TATIONS.—Pecan culture offers largest re-turns; five-acre tract on easy payments as-sures a steady growing income; we take care of orchards for four years; 800 acres under cultivation in budded paper-shell pecans. Write for booklet. South Georgia Real Es-tate & Development Co., Valdosta, Ga.

FIVE-ACRE PECAN ORCHARDS IN ALABAMA.—I am offering fifty tracts of this size to the first fifty buyers. Now is your opportunity to get a start in this profit-able business on easy terms. Monthly payments if desired. I can furnish best of references, and, if preferred, will manage tracts for non-resident owners. Write for full particulars and terms. Oscar V. Case, Fort Payne, Ala.

FLORIDA ORANGE GROVES

WE HAVE FOR SALE one of the finest groves in this State; priced \$5000 under real value; annual crop about 5000 boxes; will pay 15 per cent. to 20 per cent. yearly on investment; pay for itself in five years; 1800 trees; 111 acres; 10-room house, barn and packing-house; an ideal winter home, on beautiful lake; splendid investment; owner needs money; purchaser gets this year's crop. Write for particulars. King & King, Jacksonville, Florida.

CABBAGE PLANTS

CABBAGE PLANTS

AN ACRE OF CABBAGES near a town or viliage will net over two hundred dollars. We have twenty-five acres in cabbage plants of all improved varieties, grown in the open air, and are positively frostproof. Will make large heads. Price, 1000 to 5000, 11.25 per thousand. Special prices over 5000. Packed in neat boxes and tied in bunches if desired. Special express rates. The Sea Island Plant & Seed Co., Meggetta, S. C.

FARM, FRUIT AND TRUCK LANDS

ALABAMA

FOR SALE—A farm of 310 acres, 6½ miles from Heflin, Ala., 20 miles from Anniston, 125 acres in open land; 50 acres in fertile creek bottoms; two good houses; modern stables; good ronds; good water; 1½ miles from school, church, store, mili. Price \$12 per acre, cash. Write Box 147, Taliapoosa, Ga.

ARKANSAS

80 ACRES improved farm in best of Arkansas farming section, nearly all in cultivation; yields % to a bale of cotton per acre, 60 bushels corn; good five-room house, barns, wagon shed, deep wells; land not subject to overflow and all is fenced. Price \$300, on terms of one, two and three years. J. B. Wright, with J. L. Dunlap & Co., 906-907 Exchange Bidg., Memphis, Tenn.

FLORIDA

FLORIDA winter home and celesy farm, 10 acres, subirrigated, facing St. Johns River; finest fishing and shooting; beautiful bungalow, surrounded by orange trees. Address Cecil Gabbett, Sanford, Florida.

FLORIDA FARMS ARE FORTUNES.— Our soil similar to fertile sections Iowa, Mis-souri; easy-payment pian. Write for booklet, Milton Land & Investment Co., Marianna, Fla.

24 ACRES under fence: fruit, nut, shade rees; 10 miles from Tampa; furnished louse, fine horse, buggy, good cow. 24 chick-ns; \$1890. A. C. Dickinson, Limona, Fla.

WINTER HOME SEEKERS, correspond with F. T. Adams, Pineland, Fla.; situated on Pine Island, Lee county, the most delightful climate in the world. I took 12 acres of land, cost \$50 per acre, last February, cleared it and planted in grapefruit grove. I am offered \$4000 for the grove now, but I planted it this week in onlons, cucumbers, tomatoes and cabbage. I want to clear \$4000 by April 1 and still have the grove. Those wanting homes, come and see mine. F. T. Adams, Pineland, Fla.

FLORIDA FRUIT AND TRUCK LANDS.—We offer 10-acre tracts in that part of the State of Florida lying in Hillsboro county and Lake Butler region, in the Finelias peninsula, on the west coast of Florida, on the Guif of Mexico; with its elevation and rolling hills is especially suited for fruits of all kinds—grapefruit, oranges, grapes, dates, figs, bananas, peaches and other fruits, as well as vegetables, potatoes, corn, beans, pennuts and all the varieties that can be produced anywhere. The Tarpon Springs district offers the most favorable conditions for farmer, home seeker and investor. Fertile lands in small tracts, easy monthly payments; guaranteed title. Investigation invited. If you want a bargain and a home in the most desirable part of Florida, write now for particulars and reservation. Tampa & Tarpon Springs Land Co., Tampa, Florida.

WRITE J. H. Brinson, Supt. Pub. Inst., Ocala, Fla., for full particulars about his 100-acre farm in the rich Ocala district, worth \$7000, that may be had for \$4250. No colony scheme, but a real bargain.

WHY PALMETTO LEADS.—The 800,000 oxes of fruits and early vegetables attests the superiority of soil, climate and irrigation necessary to produce such crops. The ease with which such crops are handled by rail and water make it an ideal place for fruit and vegetable growing. The Manatee River, Terra Cina and Tampa bays furnish ideal salt-water fishing, boating and bathing. For further information address The Manatee River Board of Trade, Palmetto, Florida.

FLORIDA FARM, 1200 ACRES RE-CLAIMED LAND, ready for cultivation; drained direct into Biscayne Bay; county rock road; railroad station on property; crop from 300 acres planted this winter will net half as much as price asked for all. Thos. J. Peters, Perrine, Dade Co., Fla.

FLORIDA GROVE.—26% acres red land; quarter mile from railroad station; set in budded trees, best varieties oranges, grapefruit, Avacado pears, mangos; bearing next year. Price \$10,000. Thos. J. Peters, Perrine, Dade Co., Fla.

GEORGIA

FOR SALE—IN MIDDLE GEORGIA—
Most magnificent plantation, 2000 acres,
Twiggs county; finest farm land in the cotton belt; 650 acres in cultivation; 150 acres in
pasturage; hog wire around 40 acres; balance stock wire; springs; branches; fine
wells, guaranteed to cure dyspepsia; 15 tenant-houses, all occupied; stock, implements,
forage, grain, saw and shingle mills, all go
in at the price, \$25 per acre; 1200 acres in
timber, pine, oak, poplar, etc; grand old
colonial house stands in eight-acre oak and
magnolla grove; haif cash; balance easy.
1490 Candler Bidg., Atlanta, Ga. Mrs. M. M.
McCall.

FORTY-ACRE TRUCK FARMS for sale in the famous strawberry belt of Louisiana; on main line of Illinois Central Raliroad. Price \$25 per acre on easy terms. Similar lands only a few miles distant are selling as high as \$15 per acre. The Lampton Realty Co., 405 Hibernia Bank Building, New Orleans, Louisiana.

LOUISIANA LANDS.—We make a specialty of improved farm lands, and on application will mail free list giving price and description of more than a hundred tracts, from 18 acres to 2400 acres. Also write us for hardwood, cut-over and colonization propositions from 1600 to 60,000 acres. Grace Realty Co., Plaquemine, La.

HEADQUARTERS FOR NORTH LOUISI-ANA LANDS.—Large and small tracts, suitable for plantations, small farms, orchards or truck gardens. Climate, soil and health conditions here are unsurpassed. The staple crops of the North grow in this section alongside of cotton and cane. A great stock country. Write for particulars, stating your requirements. References, my customers and any bank in Shreveport. W. A. Jones, Au-thority on North Louisiana Lands, Shreve-port, La.

FOR SALE—540 acres good ridge and creek bottom land, two miles from Kingston, Adams county, Mississippl; only \$8 per acre, cash; a fine farm for stock and truck. D. S. Farrar, Rosedale, Miss.

FORTY-ACRE FARMS in George county, Mississippi, 25 miles northwest of Mobile. This is one of the most-favored general farming sections of the entire South, and no better values can be found anywhere. Price \$25 per acre on easy terms. The Lampton Realty Co., 405 Hibernia Bank Building, New Orleans, Louisiana.

New Orleans, Louisiana.

3555 ACRES of good hill cotton land for sale; now in successful operation; well supplied with negro labor. The plantation lies between two branches of the Illinois Central Railroad; nearest shipping point, four miles from the dwelling. The land corners within half mile of one of the shipping points. A sufficiency of cabins for tenants, stables, cribs, cotton pens and all outhouses. Fortyfive head of mules and horses, cows, farming implements and feedstuff. Price very low. Terms good. Address A. C. Leigh, Grenada, Miss., bona-fide owner of the property.

500 ACRES black alfalfa land, East Missis-sippl; cleared; large home; 12 tenant-houses; no overflow; no malaria; \$37.50; easy terms. J. R. Haygood, Arkadelphia, Ark.

80 ACRES improved farm in Panola county, Miss., 5½ miles from railroad. This land produces one bale of cotton to the acre and 65 bushels corn per acre; two good tenanthouses; good wells. This is a bargain at the price, \$3000, on terms. J. B. Wright with J. L. Dunlap & Co., 306-907 Exchange Bidg., Memphis, Tenn.

NORTH CAROLINA

WANTED — Men to become independent farmers in Eastern North Carolina, the "Nation's Garden Spot." Leads for large profits on small capital. Write for booklet. C. Van Leuven, 815 Southern Bidg., Wilmington, N. C.

IRRIGATED FARM.—350 acres of rich sandy losm, level, and to be irrigated from the famous Elephant Butte Dam, now in course of construction. This land can now be bought for \$35 an acre. Write us for full description. Loomis Bros., El Paso, Texas, Mexican Timber Lands.

FOR SALE-235½ acres prairie land, located on Santa Fe Railroad and on public road (shelled) only 13 miles from Beaumont and one-quarter mile from Fannett: suitable for general farming or for subdividing into smaller tracts. Title perfect. Price \$27.50 per acre. Also other lands suitable for subdivision. Texas Realty Co., Beaumont, Texas.

JAS. GOODE REAL ESTATE CO., ranch and irrigated lands. Office, Orient Hotel, Pecos, Tex.

THE BLACK LANDS OF NORTH TEXAS are justly famous as the best in the world for the production of cotton, corn, wheat and oats—not one crop, but four. Osce Goodwin's Denton Creek Subdivision consists of more than 8000 acres of this land, situated on the Denton and Wise county line, 50 miles northwest of Dallas, and is offered at reasonable prices—thirty to forty dollars per acre—and upon such terms that any man with a few hundred dollars cash can easily meet. The gradual and steady enhancement in value of such land should appeal to investors, while the very easy terms upon which it is offered should appeal to the farmer without a home. Address Fount Ray, Decatur, Texas.

2464-ACRE FARM on Lavaca River, 5 miles north of Edna, Texas; 500 acres river bottom field; 10 small rent houses; one 10-room ranch house; private phone line out of Edna; all fenced; several wells; 3000 bearing pecan reces; will sell or trade for good city property at \$35 per acre. Emil Locke, 712 Gibbs Bidg., San Antonio, Texas.

1500 ACRES black hog-wallow prairie land; excellent cotton and corn land; a genuine bargain; \$18; easy terms. N. B. Knight & Co., Houston, Texas.

TEXAS COAST COUNTRY BARGAIN.— 8000 acres fruit and general farm land sur-rounding a railroad station at small town 55 miles from city; 500 acres now in cultiva-tion; only \$12 per acre; terms if desired. C. H. Stancliff Land Co., Houston, Texas.

stock com-; fine ship-nce terms; tner, Pike-

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I.; frame;
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N. J. NDS CELLA.

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Classified Opportunities

[CONTINUED FROM PAGES 84 AND 85.]

RICHEST FARM AND FRUIT LANDS, IN FAMED BEE COUNTY, 60 MILES FROM GULF. IN THE RAIN BELT.—Old Wilson ranch, 18,700 acres, in small tracts, 40 to 640 acres, each facing roadway; close to railroad; good automobile roads; finest black sandy loam; clay subsoil; no rock; practically no waste land; gently undulating; perfect drainage; good water; coming truck and citrus fruit section; can raise winter vegetables, then plant cotton or corn; climate bainy and healthy; gulf breeze makes summer nights delightful; no malaria nor mosquitos; extensive development going on. Write for booklet. Low price; easy terms. If wanted, will sell 5000 or 9000 acres in a solid block at especially attractive figure. Theodore l'immer, Owner, 540 Moore Bidg., San Antonio, Texas.

WELL-IMPROVED FARM FOR SALE.— 560 acres, adjoining and same quality as land described next above; 300 acres in cultiva-tion, all fenced and cross-fenced; excellent farm improvements; best in that section of country; ideal Southern home. For guick sale at low price. Terms, 1 to 5 years. Write for full particulars. Theodore Plummer, Owner, 540 Moore Bidg., San Antonio, Texas.

10,000 ACRES Nucces River bottom land; all subdivided into small tracts; very best truck and fruit land in Southwest Texas; will sell in small tracts or in a body. Emil Locke, 712 Gibbs Bidg., San Antonio, Texas.

IRRIGATED LANDS. — Parties in the North, East and Middle West interested in improved and unimproved irrigated lands and ranch property in the great Pecos section, communicate with us. Pawkett & Davis, Pecos, Tex.

RICH RIVER BOTTOM LAND ON Guada-pupe River, 496 acres, 3 miles from Cuero loupe River, 496 acres, 3 miles from Cuero, county seat DeWitte county, Texas; all fenced and cleared, 3 houses, barns, wells, etc.; delightful climate; excellent market facilities; a bargain; 485 per acre; part cash. Address Agent, Box 495, Yoakum, Texas.

THE FRIO VALLEY WINTER GARDENS.
La Salle county, Southwest Texas, a colony of 100,000 acres level rich black sandy loam in famous artesian belt; grow oranges, figs Bermuda onions. We are opening Fowlerton, a new town on new railroad in heart of the colony. Guaranteed improvements on townsite. A 16-acre farm and free residence lot on terms of \$15 cash; balance \$10 monthly. Write for booklet A, prices, plats, etc. Fowlers Brothers Land Co., Frost Building, San Antonio, Texas.

COTTON AND CORN LAND.—12,500 acres, near two good railroads, being one mile from one and two miles from the other; splendid colonization tract; at \$10 per acre; one-fourth cash; balance 6 per cent. Address owner, Dr. C. S. Preston, 1007 Scanlan Bidg., Ilouston, Texas.

PASSENGER ELEVATOR FOR SALE

FOR SALE—One Otis short rise hydraulic plunger passenger elevator, installed, but has never been in use; will sell at a sacrifice. For further information write W. C. Meador, Architect, Port Arthur, Texas.

KEY MACHINES

HARRISON KEY FILING JIG, the great-est invention of the age; enables anyone to make perfect duplicate pin tumbler keys; no misfits; saves blanks; price within reach everyone. Harrison & Co., 81 New St., N. Y.

MACHINERY AND SUPPLIES

SAWMILL, MACHINERY FOR SALE.—As agent for bondholders I offer, subject to prior sale, one Fay & Egan band mill, 100 II. P. boiler, 75 II. P. Brownell engine; good site at this place; three Coe veneer lathes in good order, and other equipment; one stationary circular-saw mill and nearly a million feet of timber; will sell any part of this. Quick buyers are requested to correspond with me at once. Jo A. Parker, Parma, Mo.

WANTED.—Every consumer in the Southwest to know that the Texas Rolling Mill Company of Fort Worth, Texas, manufactures track spikes, track bolts, machine bolta and nuts; also standard sizes of bar iron. One hundred tons always in stock. Prompt shipments our specialty. Satisfaction guaranteed.

FINANCIAL

8 PER CENT. 5-YEAR OKLAHOMA FARM MORTGAGES.—Yes, rate is high, but sure and easily paid; conditions warrant it, and you get benefit; lands cheap, rich; values doubling; 25 years' experience in Southwest; 10 years bank cashier here; know people, lands, laws, resources, local conditions; never lost a mortgage nor had a title contested; abundant references; circular; investigate. J. G. James, Roff, Oklahoma.

SAVANNAH, GA.—Real estate loans paying 6 per cent. to 7 per cent. to the investor; absolutely safe. Beautiful sites for winter homes at Vernon View, the salt-water place near Savannah on the Grand Prize Course; ideal winter climate. G. A. Mercer, Law and Real Estate, Savannah, Ga. References: Any bank or trust company in Savannah.

PATENT ATTORNEYS

EUGENE C. BROWN, ENGINEER and Patent Lawyer, Suite 40 Victor Bidg., Washington, D. C., Member Bar U. S. Supreme Court. Patents and Trademarks; Patent Suits for Infringement. Mr. Brown is especially qualified to prosecute cases in Patent Office and patent litigation from both Engineering and Legal standpoints, having been Examiner in U. S. Patent Office for nine years. Send sketch for advice.

PATENT YOUR IDEAS.—\$100,000 offered for one invention, \$8500 for another; book, "How to Obtain a Patent" and "What to Invent," sent free; send rough sketch for free report as to patentability; patent obtained or fee returned. We advertise your patent for sale at our expense. Chandlee & Chandlee, patent attorneys, 978 F street, Washington, D. C.

IDEAS WANTED.—Manufacturers are writing for patents procured through me. Send for free 72-page guide and "Stepping Stones" (containing over 200 inventions wanted). Personal services. Clients' patents sold free. Trade-marks registered. R. B. Owen, Dept. 12, Washington, D. C.

PATENTS Secured or Fee Returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for one invention; \$16,000 for others. Patents secured by us advertised free in World's Progress; sample free, Victor J. Evans & Co., Washington, D. C.

PATENTS FOR SALE

FOR SALE—U. S. patent magazine smok g pipe; highest bidder gets this simple in ention; make offer quick. J. Lloyd Prunty

FOR SALE—My right to make and sell a new triphammer; simple and strong and as good as the best; half million blacksmiths want one. S. K. Jensen, El Campo, Texas.

WE HAVE recently secured the following patents. Address all communications to Sales Dept., Victor J. Evans & Co., Washington, D. C.: Orel M. Shirey, holder for current collector; F. W. Shaver, sadiron; Lowry Sexton, metal facing for bricks; Allison Strickland, saw sharpener; C. K. Lassiter, bolt threading and turning device; M. Walter, folding coop; S. E. Warren, pressroll; W. H. Cook, paper machine; W. R. Cook, compressed-alr system; W. R. Wallingsford, automatic gate latch; Wm. C. Smith, truck; W. Albert Sheetz, planner, J. O. Klinney, riffle for amalgamator; Frank S. Jannes, tie plate; S. Belanger, rall splice; Lewis Bechee, water-level alarms for bollers; Jos. E. Austin, locomotive gauge cock; Chas. S. Cox, automatic release; A. K. L. Black, music-lenf turner; J. H. Belser, rod catcher; T. Ferry, brush; Benj, F. Dul'ont, olican; L. D. Frazier, meat-block attachment; Hale E. Hawk, delinter and separator; John W. Moore, vegetable cutter; Peter N. Cien, butter-cutting machine.

These Advertisements Too Late for Regular

PROPOSAL

PUBLIC BUILDINGS. CONSTRUCTION BONDS MISCELLANEOUS.

GOVERNMENT PROPOSALS

PROPÔSALS FOR AIR COMPRESSOR, Steel Plates, Steel Cable, Soil Pipe, Stovepipe, Files, Grease Cups, Seythes, Padlocks, Fire Hose, Packing, Emery Cloth, Sponges, Mats. Refrigerators, Chairs, Lye, Pitch, Putty, White Zinc, Shellac, Red Lead, etc. Sended proposals will be received at the Cffice of the General Purchasing Officer, Isthmian Canni Commission, Washington, D. C., until 10:30 A. M. December 26, 1911, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 668) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City, and 614 Whitney-Central Building, New Orleans, La.; also from the U. S. Engineer Offices in the following cities: Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, III.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Loulswille, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Ciub, Kansas City, Mo.; Chamber of Commerce, Quincy, III. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Ill. F. C. BOGGS, Major, Corps or Engineers, U. S. A., General Purchasing Officer.

PROPOSALS FOR RECESS COVER SEATS for Crank-gear Machinery Chamber Recess Covers. Scaled proposals will be received at the office of the General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10.39 A. M. January 3, 1912, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 667) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La., and 1998 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Scattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Julney, Ill., and Commercial Club, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

PROPOSALS FOR MISCELLANEOUS MAterial for Rack Railway and Miter Gates, including Track Bonds, Flexible and Solid Condult, Junction Boxes and Condult Fittings, Steel Spilee Bars, Brass Pins, Sheet-Asbestos Pads, etc. Sealed proposals will be received at the office of the General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10:39 A. M. January, 6, 1912, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 686) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City: 614 Whitney-Central Building, New Orleans, La., and 1686 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mieh.; Milwaukeg, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer. PROPOSALS FOR MISCELLANEOUS MA-

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 2, 1911. Sealed proposals will be received at this office until 3 o'clock P. M. on the 16th day of January, 1912, and then opened, for the construction, complete (Including plumbing, gaspiping, heating apparatus, electric conduits and wiring, and lighting fixtures), of the U. S. Postoffice at Frostburg, Maryland. The building is one story, basement and unfinished attic, of approximately 3100 square feet ground area; fireproof construction, except roof; brick facing, with stone, marble and terra-cotta trim and cornice; tile and copper roof. Drawings and specifications may be obtained from the Custodian of site at Frostburg, Maryland, or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., November 21, 1911. Scaled proposals will be received in this office until 3 o'clock P. M. on the 19th day of January, 1912, and then opened, for the construction, complete (including plumbing, gaspiping, heating apparatus, electric conduits and wiring, and lighting fixtures), of a one-story-and-basement building of approximately 3750 square feet ground area, brick faced, with stone and terra-cotta trimming, for the United States postoffice at Orangeburg, S. C., or accordance with drawings and specifications, copies of which may be obtained from the custoflian of site at Orangeburg, S. C., or at this office, at the discretion of the Supervising Architect, JAMES KNOX TAYLOR, Supervising Architect.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., November 29, 1911. Scaled proposals will be received at this office until 3 o'clock P. M. on the 10th day of January, 1912, and then opened, for the construction (including plumbing, gaspiping, heating apparatus, electric conduits and wiring, and interior lighting fixtures) of the U. S. Postoffice at Gaffriey, S. C. The building is one story and basement, and has a ground area of approximately 4500 square feet; fireproof construction throughout; stone facing and the roof. Drawings and specifications may be obtained from the Custodian of Site at Gaffrey, S. C., or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

U. S. ENGINEER OFFICE, \$20 17th St. N. W., Washington, D. C., December \$, 1911. Scaled proposals for dredging in Ancostia River, D. C., will be received here until 12 M. January \$, 1912, and then publicly opened. Information on application. W. C. LANGFITT, Lt.-Col., Engrs.

U. S. ENGINEER OFFICE, Trust Company
Building, Galveston, Tex., November
29, 1911. Sealed proposals for repairing northcast jetty at mouth of Brazos River. Texas,
will be received at this office until 12 M.
December 30, 1911. and then publicly opened.
Information furnished on application. EARL
I. BROWN, Major, Engrs.

NEW BOND OFFERINGS

\$150,000 5% Bonds

Scaled proposals will be received by O. C. Funderburk. County Judge, at Palestine, Texas, until January 1, 12 M., for \$150,000 5 per cent. 40-20 Road District Bonds, dated January 1, 1912. Certified check for \$1000 required with bids.

Bids for Bonds

The Board of Revenue and Road Commissioners of Mobile County respectfully calls for bids for \$150,000 in Road Bonds. Bids to be opened at noon of Monday, December 18, 1911. For particulars address GEO. E. STONE, County Treasurer, Mobile, Ala.

\$20,000 5% Sewerage Bonds

Scaled bids for the purchase of twenty thousand (\$20,000) dollars 5 per cent. Sewerage Bonds Issued by the town of Edenton. N. C., will be received up till December 19, 1911, at twelve o'clock noon.

No bids accepted for less than par and accrued interest from July 1, 1911. Certiffed check for 2½ per cent. of amount of bid must accompany each bid.

Rights reserved to reject any and all bids. Address

R. F. TUTTLE. Mayor.

R. F. TUTTLE, Mayor. Edenton, N. C.

\$110,000 Perry County, Alabama, Road Bonds

Sealed proposals will be received until December 27, 1911, at 12 g clock noon, for 110,000 5 per cent. s. a. (January and July) 20-year Road Bonds. Denomination, \$1000. Date, January 1, 1912. Bonds are exempt from all taxes. Each bid for the above issue of bonds must be accompanied by a certified check for \$1000, made payable to the order of the Treasurer of Perry (County, as a guarantee of good faith. No bid accepted for less than par and accrued interest. Right reserved to reject any and all bids. For statement of bonded debt, etc., see reading notice this issue of The Financier.

J. B. SHIVERS, Judge of Probate.

Marion, Alabama.

COU

PUBLIC

CONSTRUCTION

MISCELLANEOUS.

NEW BOND OFFERINGS

Notice to Bond Buyers

The City of Sweetwater, Nolan county, Texas, will receive sealed or open bids until the second Monday in January, 1912, at 12 octook noon, for the purchase of twenty-five gioos treet-improvement Bonds. Interest 5 per cent. Semi-annually. Bonds mature in 40 years, with 20-year option. Payable at Sweetwater, Texas, or Hanover National Bank, New York, at option of holder. Certified check of \$590 must accompany each bid. Right is reserved to accept or reject any and all bids. Bonds dated October 25, 1911. Address

T. B. THARPE, Mayor; or J. W. McDUGALD, City Attorney of Sweetwater, Texas, or L. S. POLK, City Secretary.

Sale of Bonds

ill be received until the 28th of De-911, at 7.30 P. M., by the Mayor and Aldermen for the sale on that date bonds of the City of Brookhaven, ed January 1, 1912, due and payable I, 1932, to be issued for the purpose money for the erection of an addi-ew Mite Public School Building at en, Mississippi, and for improve-reon.

ereon.

dis will be in denominations of \$500 date January 1, 1912, and bearing at the rate of 5 per cent, per anterest payable semi-annually on the of June and January of each year, check for \$500 must be filed with 1, and the right to reject all of reserved.

is reserved. okhaven, Miss., December 6, 1911. R. L. DAVIS, City Clerk.

\$20,000 6% Bonds

→2U,UUU D → Bonds

e Town of Barton Heights, Va., a subof Richmond, Va., has voted an issue of
s of the town to the amount of \$20,000,
ing interest at 6 per cent, per annum,
ble semi-annually, and maturing thirty
s from date of issue. The issue will be
in two lots of \$10,000 each, one dated
mber 1, 1911, interest payable June 1 and
mber 1; one dated January 1, 1912, Intapyable July 1 and January 1.
is for the entire issue are invited and
be received up to and including Decemy, 1911. Bids to be made and considered
od faith and no deposit required.
ired information will be furnished to
nective bidders.

ess all communications to THOMAS ARMSTRONG, Chairman Finance Committ

hairman Finance Committee, Town of Barton Heights, 11 South 12th Street, Richmond, Va.

Bond Sale

Bond Sale

COUNTY FARM-LIFE SCHOOL OF CRAVEN COUNTY, N. C.

\$15,009 5% THIRTY-YEAR BONDS
FOR SALE.

Sealed bids will be received at the office of the undersigned, in New Bern, North Caroina, until Monday, 1st day of January, 1912, at 12 o'clock M., for the purchase of five housand (\$5000) dollars Carven county bonds and ten thousand (\$10,000) dollars First township, Craven county, bonds; all of said bonds payable thirty years after date, and bearing interest at the rate of five per centum pen annum, payable at such time or times, and at such place or places, and said bonds to be of such denomination, and of such proportion, and to be of such form and tenor and transferable in such way, and the principal thereof payable or redeemable at such time or times, not less than fifteen years from the date thereof, and at such place or places, as may be agreed on between the Board of Commissioners for the Craven county and the purchaser of said bonds. Certified check for one hundred (\$100) dollars as evidence of good failth must be filed with bid.

Bidders are invited to submit form of bond

are invited to submit form of bond

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to be used.

The right to reject any and all bids is re-

erved.

By order of the Board of Commissioners
or the County of Craven.
S. H. FOWLER,
Clerk of Board of Commissioners
for the County of Craven.

ELECTRIC LIGHT PLANT, SEWERS AND WATERWORKS

Sewerage System

will be received by the Board of Sewcommissioners and City Council of
r of Edenton, North Carolina, until
of proposed work is approximately
rites of pipe, 8 inches to 15 inches;
s. flush tanks, etc.
cations may be obtained from W. J.
n. Secretary, Edenton, N. C.
will be on file and can be seen at the
the engineers at Jacksonville, FlorGaffney, S. C., and at the office of
erryman, Secretary, Edenton, N. C.
cd check for five hundred (\$500) dolsecompany bid.
ght is reserved to reject any or all
R. F. TUTCLE Mayor and Chun-

R. F. TUTTLE, Mayor and Chmn. W. J. BERRYMAN, Secretary. LYON & LIPSCOMB. Engineers.

Sewerage and Water-Works System

CONTRACTORS' NOTICE.

CONTRACTORS' NOTICE.

Sealed proposals will be received by the Mayor and Council of Unadilla, Ga., until 2 P. M. December 20, 1911, at which time they will be publicly opened and read.

Proposals to embrace a complete Sanitary sewerage System, about five miles; 1½ miles of 6 and 8" Water Main, with appurtenances; Brick Building, Reinforced Concrete Reservoir, 80 H. P. Bolier, Fumping Engine and Air Lift Installation. Contract will be let to one contractor as a whole plans can be secured at Mayor's office, Unadilla, Ga. Specifications covering material and work will be furnished by Engineers on request. No plans will be sent out, as a personal inspection of premises is necessary for intelligent bidding. City reserves the right to reject any and at bids or to accept such bids they deem to their best interest.

THE J. B. McCRARY CO., Engineers,

Atlanta, Georgia

Notice to Contractors for Sewage Disposal Plants

age Disposal Plants

Springfield, Mo., November 22, 1911.

Sealed bids will be received at the office of the City Clerk of the City of Springfield, Mo., until January 15, 1912, twelve o'clock noon, for the furnishing of excavations, labor and materials necessary for the constructing, extending and repairing the public sewers at the outlets thereof in the City of Springfield, Mo., by providing adequate means of treating and reducing the sewage at said points. Said sewage-disposal plant to be constructed of reinforced concrete, with all necessary devices for the sanitary reduction and treatment of the sewage, and for controlling and regulating the distribution of the sewage to be treated, together with all proper and necessary connections to the present outlets, and to be fitted with proper discharge devices and pipe connections after said sewage has been treated.

Said bids to be accompanied by detailed plans and specifications of the disposal plant proposed to be constructed by each bidder, and to be based upon a statement of general requirements to be furnished by the City Engineer of said city covering the general character and scope of the work.

It is the desire and intention of the City of Springfield to secure the character of disposal plant most desirable for the economical and satisfactory treatment of the raw sewage and satisfactory disposal of the same.

Each bid and proposition must be accompanied by a certified check for ten per cent. of the amount of the bid.

The successful bidder will be required to turnish bond, to be approved by said city, for the faithful performance of the contract. The right is reserved to reject any or all bids.

ROBT, E. LEE, Mayor.

Attest: J. H. LANGSTON, City Clerk.

Electric Light Plant and Water-Works, Washington, Ga.

Sealed proposals will be received by Boyce Ficklen, Jr., City Clerk, Washington, Ga., until twelve o'clock noon December 20, 1911, for constructing a new power plant, adding to the present water-works, and overhauling and extending the present electric light and power transmission system in the City of Washington, 'Ga., in accordance with the plans and specifications drawn by Westinghouse, Church, Kerr & Co., Engineers, and now on file in the office of the City Clerk. Copies of the plans and specifications may be obtained from the City Clerk upon deposit of fifty dollars (\$50) with the said Clerk, which amount will be refunded upon the return of such copies of plans and specifications.

The pnecifications are divided into the control of the control of the control of the control of the copies of plans and specifications.

fleations.

The specifications are divided into two parts, main and supplementary, and bids are desired as follows:

A. To furnish all material and do all construction called for by the plans and specifications; this bid to be divided into two parts, one to cover the main specifications and the other the supplementary specifications.

parts, one to cover the main specifications and the other the supplementary specifications.

B. This bid shall cover construction of the building and foundations called for, but not to include the installation of machinery or the construction of transmission lines.

C. This bid to cover the installation of all machinery and the construction of all transmission lines as called for in the plans and specifications, but not to include the construction of the building and foundations for machinery; this bid shall have separate bide called for under the main and supplementary part of the specifications.

All bids by one bidder may be enclosed in one envelope. The right to reject any and all bids is reserved.

Each bidder shall enclose with his bid certified check for 5 per cent. of the amount of his bid to guarantee his executing contract and bond in accordance with his bid.

The successful bidder is to furnish bonds properly executed in a recognized company and approved by the Engineers, as surety for the full performance of all guarantees called for in the specifications, these bonds to remain in force for the full periods of the respective guarantees that they cover.

MAYOR AND COUNCIL

MAYOR AND COUNCIL OF WASHINGTON, GA. By Boyce Ficklen, Jr., Clerk.

Sewerage System and Disposal Notice for Bids for Construction Plant

Sealed proposals will be received by the City Council of the City of Union Springs, Alabama, until 11 A. M. January 4, 1912, for the construction of a sanitary sewerage system and disposal plant, complete.

Approximately 11 miles of 6" to 15" pipe sewers and appurtenances. Plans and specifications on file with P. L. Cowan, City Clerk. Union Springs, and in the office of the Engineer, Attalla, Ala. Specifications will be mailed from either office on application. Drawings can be obtained from Engineer on deposit of two dollars.

Engineer: S. P. RAINER, Mayor.

Engineer: WILLBURN HILL, Attalia, Ala.

MISCELLANEOUS

Notice to Builders, Steam Fitters, Plumbers and Electricians

Plumbers and Electricians
Chattanooga, Tenn.
Sealed proposals will be received by the
undersigned at the Hamilton National Bank
until noon December 20, 1911, for the erection
of a courthouse building for Hamilton county
in Chattanooga, Tenn. For plans and specifications apply to R. H. Hunt, architect,
Chattanooga, Tenn. The right is reserved to
reject any or all bids.

M. M. ALLISON, Chairman.

Cast Iron Pipe

Sealed proposals will be received by the Board of Public Works of the City of Tallahassee, Fla., until 7.30 P. M. December 28, 1911, for furnishing f. o. b. cars at Tallahassee, Fla., approximately ninety-six tons of 4, 6 and 8-inch cast-iron water pipe, either "Bell and Spigot" or "Universal," and six tons of tittings.

The Board reserves the right to vary from the stated quantities and to reject any or all bids.

ds.
Address communications to the Engineer.
D. R. COX,
Secretary.

C. H. ELLIS.

Sealed Proposals Will Be Received for the Following Items:

- 1. Exterior Stone and Setting of Same.
- 2. Common Brick Work, Face Brick Work, Glazed Brick or Tile Work, Terra-Cotta Par-titions and Furring.

3. Exterior Ornamental Terra-Cotta and Setting of Same.

Common Concrete, Area and Basement Floors, Granolithic Finish, Cinder Concrete Fill.

Finish, Cinder Concrete Fill.

Finish, Cinder Concrete Fill.

REQUIRED IN THE

COURTHOUSE FOR FULTON COUNTY,
TO BE ERECTED ON THE SOUTHEAST
CORNER OF SOUTH PRYOR AND EAST
HUNTER STREETS, IN ATLANTA, GA.,
FOR FULTON COUNTY, GEORGIA.

1. Proposals for each of the above items,
under separate cover, to be addressed to the
Commissioners of Roads and Revenues of
Fulton County, Georgia, and will be received
until twelve o'clock noon January 25, 1912,
for the furnishing of all material and labor
required in each of the above separate items
on the above building, as more minutely described in the plans and specifications on
file and open for investigation at the office
of the ald Commissioners and at the office
of the Associate Architects, A. Ten Eyck
Brown and Morgan & Dillon, 607-10 Forsyth
Building, Atlanta, Georgia.

2. Copies of drawings may be obtained
from the Architects at the above address
upon a deposit of a certified check for \$20
for each set, check to be returned to maker
upon the receipt of drawings and specifications in good condition.

3. All bids must be submitted on special
proposal blanks furnished by the Architects,
or they will not be considered, accompanied
by a certified check for 2 per cent., the
total amount of each bid, payable to the
Commissioners of Roads and Revenues, Fulton County, Georgia, as a guarantee that
the successful bidder will enter into a contract according to said plans and specifications and execute a bond for double the
amount of each contract within ten days
after the motification of the acceptance of
his bid, failing which said certified check
of Roads and Revenues as liquidated damages.

4. The Commissioners of Roads and Revenues of Fulton County, Georgia, reserve the

of Roads and Revenues as inquated ages.

4. The Commissioners of Roads and Revenues of Fulton County, Georgia, reserve the right to reject any and all proposals.

5. By order of the Commissioners of Roads and Revenues of Fulton County, Georgia.

(See official advertisements in Atlanta Journal.)

(Sign(d) H. E. W. PALMER, Chairman, Commissioners of Roads and Revenues, Fulton County, Georgia.

November 25, 1911.

H. M. WOOD, Clerk.

H. M. WOOD, Clerk,

of County Courthouse Building at Arcadia in DeSoto County, Florida

Notice is hereby given that the Board of ounty Commissioners of DeSoto County, forida, will at their office, in the Courtouse at Arcadia, Florida, on Tuesday, the econd day of January, 1912, let the contract or the construction of a County Courthouse utilding at Arcadia, in DeSoto County, Floria, if an acceptable bid shall have been received.

idn. If an acceptable bid shall have been recelved.

All bids shall be for the complete construction of said building, and shall be scaled and
delivered to H. E. Carlton, Clerk of said
county, in Arcadia, Florida, at or before
welve oclock noon on the second day of
January, 1912.

The said building is to be erected upon the
site where the present Courthouse of said
county stands in the city of Arcadia, in accordance with the plans and specifications
therefor prepared by Messrs. Bonfoey &
Elliot, Architects, and accepted and adopted
by the said Board of County Commissioners.

All bids must be accompanied by a certified
check for 2 per cent. of the amount of the
bid submitted.

The contractor who shall submit the bid

Elliot, Architects, and accepted and adopted by the said Board of County Commissioners. All bids must be accompanied by a certified check for 2 per cent. of the amount of the bid submitted.

The contractor who shall submit the bid which is accepted by the said Board, if any shall be, shall within ten days from the date that the said bid is accepted, enter into a bond in a sum equal to 50 per cent. of the amount of his bid with a guaranty surety company legally authorized to do business in the State of Florida, and acceptable to the said Board, as surety thereon; said bond shall guarantee the erection and completion of said building within the time agreed upon and according to the plans and specifications, freed from liens and charges, and shall contain such other conditions as are customary in such bonds. If the successful bidder falls to furnish such hoth or to execute the contract in accordance with his bid within ten days after the acceptance thereof, his check shall be forfeited to the county and immediately collected by the Commissioners as liquidated damages. The contracted price will be paid in the manner provided by statute for the payment of the construction of such building.

The Board of County Commissioners hereby reserves the right to accept any or to reject any and all bids.

Plans and specifications for the said building are on file and subject to examination at the office of H. E. Carlton, Clerk of said county, at Arcadia, Florida, and at the office of Bonfoey & Elliot, Architects, No. 509 Franklin St., Tampa, Florida. Any contractor away from the said places may obtain a set of said plans and specifications by requesting the same and depositing with H. E. Carlton, Clerk, of Bonfoey & Elliot, Architects, a certified check for \$59, said check to be returned to the contractor upon the return of said plans and specifications, express being paid both ways by the contractor.

This notice is given by order of the Board of County County Countissioners of DeSoto County.

ractor.
This notice is given by order of the Board of County Commissioners of DeSoto County. Florida, and is dated this the 7th day of December, 1911.

1911.

H. E. CARLTON,
Clerk of said Board and of
DeSoto County, Florida.

Bridge

DEPARTMENT OF PUBLIC IMPROVE-MENTS,

DEPARTMENT OF PUBLIC IMPROVEMENTS,
SUBDEPARTMENT OF CITY ENGINEER.
Baltimore, December 6, 1911.
Sealed proposals, addressed to the Board of Awards, care of the City Register at his office, City Hall, until 11 A. M. Wednesday, December 29, 1911, to remove the Warren Truss Bridge and to construct and erect a steel-plate girder bridge in South Monroe street, over the Baltimore & Ohio Railroad tracks, in Baltimore City, Md. Foundations will be installed by this department and will be ready about May 1, 1912.
Specifications, proposal sheets and plans will be furnished upon application to this office, and a deposit of \$5 will be required for said specifications and plans, which amount will be returned provided the plans are returned to this office not later than December 29, 1911.
Proposals will be received separately for wrecking and purchasing old bridge, but preferment will be given to the bidder possing to wreck, purchase old bridge and erect new bridge.
The Board of Awards reserves the right to reject any and all bids. A certified check of the bidder on a Clearing-house bank, drawn to the order of the Mayor and City Council of Baltimore for the sum of \$500, must'accompany each bid.

H. K. McCAY,
Approved:
JAMES H. PRESTON,
President Board of Awards.

Approved:
JAMES H. PRESTON,
President Board of Awards.

Lighting Specifications Wanted

The County Commissioners of Rockingham County, North Carolina, will receive on Monday, January 1, 1912, bids for providing the Courthouse and Jail with a modern lighting plant. The right to reject all bids is reserved. All inquiries should be addressed to

J. P. McMICHAEL, Clerk County Commissioners, Wentworth, N. C.

Special Advertisements of General Interest.

GEORGIA FARM LAND FOR SALE SUBJECT TO LEASE

About 10,000 acres fertile farm land within 38 miles of Savannah, Georgia; healthy location and good water, suitable for colonization. A good stand of yellow pine timber, estimated at 20,000,000 feet and thousands of cords of wood. Located for seven miles on two main line railroads, giving low freight rates, secured by water transportation competition, to Northern markets, with all-year markets close at hand. Will not divide tract. Will sell outright or put in property and take interest with financially able developing company.

W. W. ROBERTSON, Owner

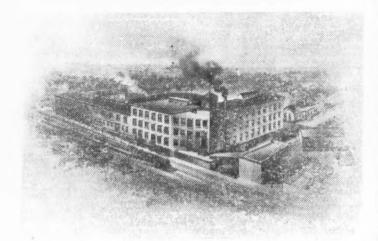
NORFOLK, VA.

J. T. KIMBROUGH WE LOCATE MANUFACTURERS REAL ESTATE

409-10 Atlanta National Bank Bldg.

ATLANTA, GA.

FOR SALE OR LEASE



Manufacturing plant or warehouse on Bellwood Avenue, Southern Railway and A. B. & A. R. R., containing two acres of land, with 600 feet railroad frontage, three-story brick mill constructed building, 42,000 square feet floor space; elevator, electric light plant, steam heat and modern plumbing. Has 100 H. P. engine and 125 H. P. boiler. Office building separate. Owner retiring on account of ill health.

H. M. BEUTELL, Owner

ATLANTA, GA.

For Sale

Completely equipped foundry at South Pittsburgh, Tennessee, including a practically new Whiting 72-inch Cupola and Sturtevant Blower. Also Engine and Boilers. Machine shop and office building.

Foundry floor, approximately, 100 feet by 300 feet. Ground, 5.2 acres. Located on Nashville, Chattanooga and St. Louis Railroad.

Adequate side tracks for unloading w material and shipping finished material.

Cheap labor market and convenient to raw material.

Formerly used as a foundry for soil pipe and soil pipe fittings. Suitable for general work.

Will make most advantageous terms.

Address, THE CENTRAL FOUNDRY COMPANY, 90 West Street, New York.



COMMERCIAL SALES & MFG. CO. Oberlin, O.

FACTORY SITES FARM LANDS

Business Opportunities, Timber Lands, **Realty Investments**

We will take pleasure in submitting information pertaining to either of the above departments.

S. L. NUSBAUM & CO.

600 Citizens' Bank Bldg. Norfolk, Va.

ASSETS REALIZATION COMPANY

Capital \$10,000,000

Will loan on security requir-ing special investigation or close supervision, and not available for bank loans. Large enterprises financed. Prompt investigation of security offered, whatever its character or location.

dence Invited

NEW YORK PHILADELPHIA CHICAGO



Hotel Dempsey

Midland City Hotel Company

MACON, GEORGIA WILL BE COMPLETED BY

October 1, 1912

SUBJECT TO LEASE EXPERIENCED HOTEL MAN

TEN YEARS OR MORE WILL CONTAIN

Over 200 Rooms All Modern Improvements

N. M. BLOCK, Chairman

BUSINESS OPPORTUNITY

An English client wishes a large Southern investment. Must stand rigid investigation and have expert report. No expense required.

RAYMOND M. HUDSON

Attorney at Law WASHINGTON, D. C.

CREDITORS SALE

Valuable Table Manufacturing Plant

The Creditors' Committee of the Virginia Table Works, Inc., Marion, Va., will offer for sale to the highest bidder, Wednesday, January 10th, 1912, at their plant in Marion, Va., all the real estate, buildings, machinery, standing timber, equipment, finished tables of every description belonging to this valuable plant. For full information, address

W. L. LINCOLN.

MARION, VA.

Stone Quarry & Crushing Plant

FOR SALE
Location, Wake county, North Carolina.
iteady demand for entire output at good
rices. No other quarry in this section.
apacity, 300 tons crushed stone per day.
Vill sell chem. Location,
Steady demand 10.
Prices. No other quarry,
Capacity, 300 tons crushed ston.
Will sell cheap.
AMERICAN STONE CO.,
P. O. Box 538, Richmond, Va.

Complete Saw Mill Plant, Dry Kiln and Logging Equipment

FOR SALE

FOR SALE

Mill has a daily capacity of 25,000 feet.
Logging outfit consists of Locomotive, three and one-balf miles of tramroad and six log trucks. Elighteen to twenty million feet of choice Pine timber, well blocked. Mill located about 35 miles south of Savannah, on the Seaboard Air Line Railway. Fifteen to twenty million feet additional timber can be had in easy reach of this plant. For full particulars address

ALBERT FENDIG & CO., Brunswick, Gz.

Farm and Timber Land FOR SALE

25,000 acres of land in Arkansas; 800 acres in cultivation; balance hardwood timber; land all in body. Timber has been officially estimated over 52,000,000 feet merchantable timber, 50 per cent. white oak. VERY FINE FOR COLONIZATION. Two railroads run through property. Land all alluvial and susceptible of cultivation. Large part of property adjoining in cultivation and now selling from \$40 to \$90 per acre.

PRODUCES rice contrar compared.

PRODUCES rice, cotton, corn and all other farm and truck products. MUST BE SOLD AT ONCE. \$18.50 per acre.

Terms can be made if desired. Write

RHODES REALTY & INVESTMENT CO., Marion, Ark.

250 H.P. Columbian Corliss Engine FOR SALE

18"x42" cylinder. 13'x21" face fly wheel. Built by Lane & Bodley Co., and in GOOD condition. Our price \$1000.00 f. o. b. cars CINCINNATI. Open for an offer.

THE WM. POWELL CO.

CINCINNATI, OHIO

Important Information For Advertisers

Publication day: - Every Thursday. Advertising copy not requiring proof must reach us one week in advance of publication day. When proof is required, two weeks in advance. Width of column, 21/4 inches; length, 13 inches. Four columns to page.





Fifth Avenue, North, Nashville, Tenn., Granite Pavement filled with Barrett's Paving Pitch in Spring of 1892.

A Story of its Wonderful Durability

A competitor advertises that pitch is short-lived. Here is his answer in an instance which is not unusual but absolutely typical of experience with Paving Pitch.

Sey ompany

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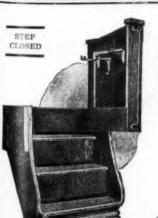
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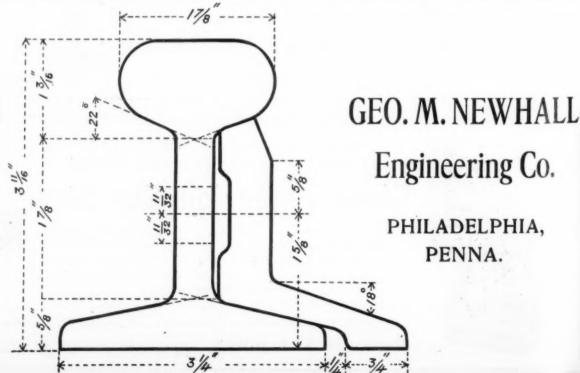
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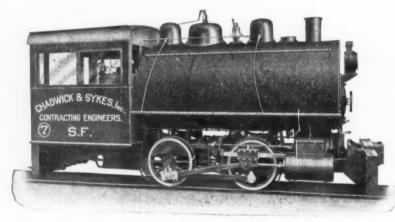


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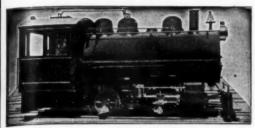
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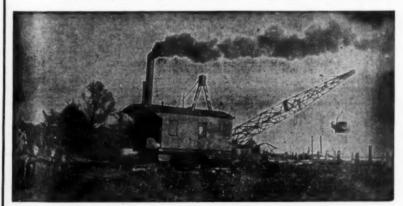
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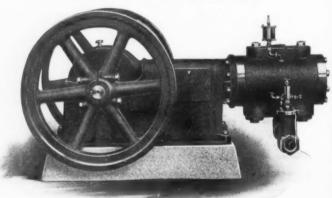
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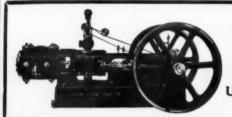
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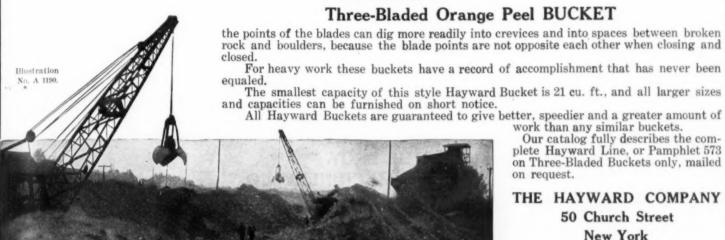
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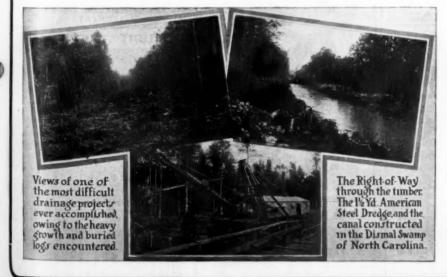


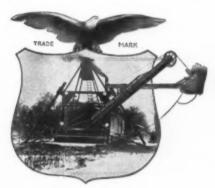
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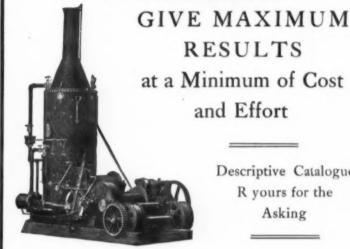
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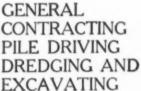
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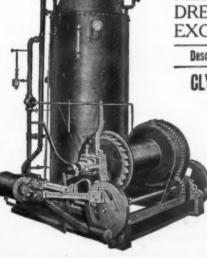
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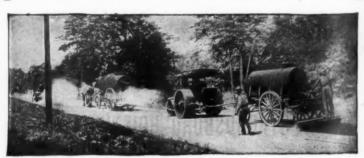
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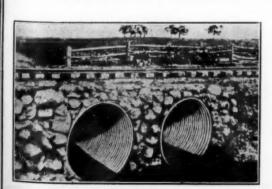
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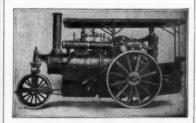


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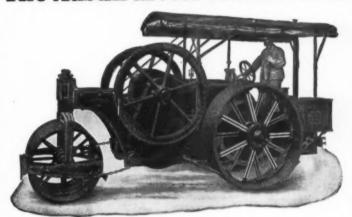
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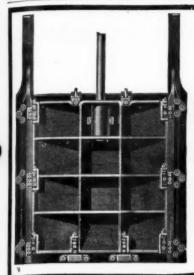
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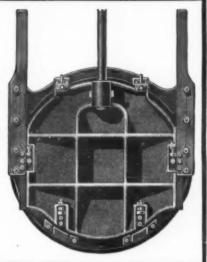
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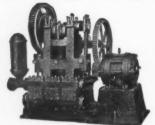
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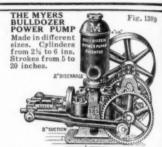
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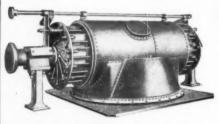
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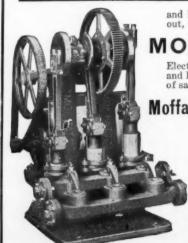
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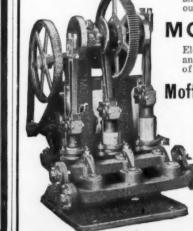


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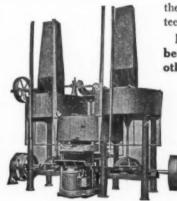
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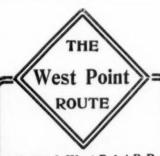
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Also Plaza Hotel, N. Y.

THE HAMMOND HOTELS

F. A. HAMMOND, President.

Establish YOUR Business at the Base of Supplies

In Montgomery, Chattanooga, Rome, Atlanta, Macon, Columbus, Birmingham and a number of other cities and towns along the Central of Georgia Railway are factory sites which are ideal from every standpoint.

Your Iron, Coal, Coke, Timber and other raw materials are procurable at the lowest cost and in any quantities you need, as you need them, from immense supplies under your hand on every side. Efficient labor is plentiful, and water power abundant and inexpensive.

The prosperous, loyal community round about supplies a home market of great possibilities. Excellent shipping facilities open the whole country for promotion of sales on a successful competitive basis.

The progress that this district has made along industrial, commercial and agricultural lines during the past few years is but an indication of the prosperity that will mark its future. In it is the rational location for your factory. Any information you desire will be sent gladly and promptly upon request.

> Address J. M. MALLORY Savannah, Georgia

> > INDUSTRIAL AGENT

ENTRALOF (TEORGIA RAILWAY

Locate Your GEORGIA No. CAROLINA So. CAROLINA

Factory in the Southeast

If you consider establishing any kind of manufacturing plant, and desire to reduce costs to a minimum, or to locate where markets are good and transportation facilities unsurpassed, you should by all means look into the advantages offered by the nine Southeastern States.

Labor and Raw Material Plentiful

The raw materials, as iron, coal, coke, natural gas, and woods, are all obtained here at lowest prices.

Intelligent and reliable white labor is plentiful, and as living expenses are low the wage scale is proportionate.

The population and industrial development of the Southeast are increasing rapidly, creating excellent markets, and insuring a bright future for manufacturers who establish themselves early.

Full information regarding locations along the Southern Ry. System may be obtained of

FLORIDA ALABAMA MISSISSIPPI M. V. Richards, L. & I. Agt. Southern Ry., Room 52

Washington, D. C.

SOUTHERN Ry. GA. So. & FLA.

Equable Climate

Texas City, Texas

Unlimited Opportunities

If you are thinking of changing the location of your factory, or if you are thinking of locating a branch plant—then by all means investigate the situation at Texas City, Texas. The established steamship lines operating between Texas City, Mexico and the countries to the South, the transportation lines which tap the vast timber resources of the Southwest and which have their termini at this place, all enable the manufacturer who is located here, conveniently and economically to secure all the various hard and soft woods. These same transportation conveniences put him in direct communication with the markets of the world. A little investigation will disclose the fact that Texas City is

An Excellent Location For a Furniture or Piano Factory

Space forbids a lengthy enumeration of the many opportunities and advantages of this favored section. Statistics and general information will gladly be furnished to interested parties. Address

Texas City Transportation Co.

Texas City, Texas

The Eyes of the World Are on Florida

The striking facts and figures shown on these pages from week to week of Florida's remarkable advance in population, in farm land values, in the leading diversified farm crops, in the capital invested in factories, and in the value of factory products, all combine to emphasize the wonderful agricultural and industrial activities and possibilities of the State.

This growth, while showing a great percentage of increase in the last decade, has been a steadily expanding one; and when the many large undertakings that are under way in Florida, such as the draining of the Everglades, extension of railroads, etc., are considered, all of which will open up opportunities of even wider magnitude, a still greater development is conservatively predicted in the next ten years.

Prosperity begets prosperity. The momentum of growth swells with an accelerating pace.

"The Call of Florida" has been heard throughout the land. The gain in its population during the last ten years has been merely the advance guard of the pioneers.

For every hundred persons who were even thinking of Florida ten years ago, a thousand persons are now studying the State with a view to making it their home.

A State which is drawing an ever increasing number of health and pleasure seekers, of permanent settlers—some to engage in general agriculture, some in manufactures, some in fruit-growing—oranges, grape fruit or kindred interests; some in trucking, some in dairying, and some in chicken raising—is an ideal land for investigation on the part of those who want

The most perfect all-the-year-round climate to be found in America;

Manufacturing and agricultural advantages of vast and varied extent;

Transportation facilities that are rapidly being extended to meet the ever expanding business of the State.

Florida is the State.

He who investigates it invests in it.

Full information gladly sent to those desiring to investigate Florida's resources for investment and homes. Florida East Coast Railway

J. E. INGRAHAM, Vice-President ST. AUGUSTINE, FLA.

Unlimited Possibilities of West Virginia's Limestone

West Virginia possesses in extent and value deposits of limestone unexcelled in the country.

These deposits offer unlimited possibilites for the establishment of industries along substantial and profitable lines.

Being of exceptional purity, they are highly desirable for the manufacture of Portland cement, hydrated, agricultural and other lime products, fluxing stone, etc.

In addition to its limestones, West Virginia has an abundant supply of natural gas, oil, coal, clays, shales, all in practically inexhaustible quantities, thus providing all of the requirements necessary for the location and economical operation of the industries enumerated.

A large proportion of these deposits are close to the Baltimore & Ohio Railroad, which with its unsurpassed fast freight service offers the best distribution facilities to the East, North and West in a consuming territory that is always expanding.

The Baltimore & Ohio Railroad wishes to encourage in every way possible the location of new industries along its lines and to co-operate to the fullest degree with those already established.

Offering as it does the most modern and complete equipment, equal to the needs of the heaviest traffic, the Baltimore & Ohio will gladly furnish through its Industrial Department full information as to limestone deposits and other inviting opportunities available in its territory.

Baltimore & Ohio Railroad

W. W. Wood, Industrial Agent

Baltimore, Md.

Woodworking Industries

that would

Thrive in Mississippi

On this page last week it was shown that 2,573,000,000 feet of timber were cut in Mississppi in 1909.

And it was pointed out how this offered a vast supply of raw material for woodworking plants.

Among the hardwoods cut in Mississippi to the extent of millions of feet annually are oak, red gum, cottonwood, tupelo, ash, hickory, yellow poplar and elm.

Striking features of these woods are their variety, volume and quality, making them adaptable to the manufacture of many different products.

Among important industries that could be located in Mississippi with every assurance of certain success are factories to make furniture, wagons and carriages, cooperage, boxes for all purposes, truck packages, spokes and rims, sashes, doors and blinds, and interior trim.

There is a large and growing home demand for boxes, fruit and vegetable packages and finished building materials, due to the steady influx of farmers and the increasing amount of early vegetables that are being raised.

Some of the best markets of the country are available through the complete, modern and fast freight service supplied by this railroad to Chicago, St. Louis and the heart of the great Central West, and through its connections with big transcontinental trunk lines to every section of the United States.

Conclusively evidencing these claims as to the importance of the opportunity is the success of plants already established.

Send for further facts bearing upon these opportunities

Illinois Central Railroad

Chicago, Ill.

J. C. Clair, Industrial and Immigration Commissioner, Chicago, Ill.

Fine Opening for Lime Plant

Abundance of Raw Materials and Growing Market Offer a Splendid Opening for Such an Industry

The demand for lime in the Clinchfield territory is steadily outgrowing the supply.

Farmers are using agricultural lime in increasing quantities for improving their lands, and this represents a constant and always expanding demand.

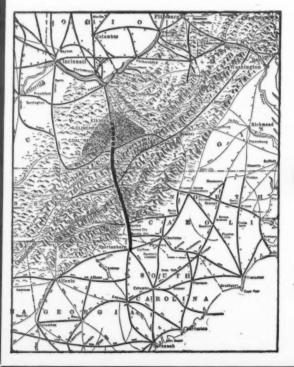
New buildings and other construction work are also being undertaken on a much wider scale, in all of which lime products are used in one form or another.

Consequently there exists in this territory a market that is already established and constantly broadening.

One especially fine location for a lime plant is available at this time. The site is directly on the main line of the Clinchfield and in the heart of a section that is showing rapid growth, industrially and commercially.

The limestone available is of high quality and can be purchased at a very low price.

The shipping facilities at this point are especially good, as products can be distributed over not only the Clinchfield, but the other important railroads with which it has connections.



Full details concerning the opportunity for the establishment of a lime plant at this point will be furnished to those interested.

Carolina, Clinchfield & Ohio Rwy.

"THE ROAD OF OPPORTUNITY"

J. J. Campion, V.-P. and Traffic Manager R. F. Brewer, Industrial Agent

Johnson City, Tenn.

Richmond's Supremacy as a Manufacturing and Jobbing Center

Rests in its splendid transportation facilities, both by rail and water, and its nearness to the South's many valuable raw materials and principal markets.

And it has been these invaluable assets that have been the basis of the wonderful success of Richmond's industrial, commercial and financial institutions.

According to the U. S. Census Bureau, manufactured products of Richmond advanced in value from \$27,745,000 in 1904 to \$47,538,000 in 1909, a gain of 71% in this five-year period.

Richmond's advance since 1909 has also been remarkable, and its present activities are well shown in the figures of 1911 compiled by the Chamber of Commerce of that city:

	Assessed Valuation\$137,500,000
	Manufacturing Plants:
	Number
•	Capital\$ 35,073,000
	Value of Products
	Jobbing Business:
	Capital
	Annual Sales
	Banking:
	Capital and Surplus
	Deposits
	Clearances

A significant fact relating to Richmond's strategic position, is that every trunk line between the North and South passes through the city, giving it magnificent distribution facilities in either direction.

Richmond, with its mile frontage on the James River, which empties into the Hampton Roads, reaps the full benefit of all the advantages for coastwise and foreign shipment enjoyed by that wonderful harbor.

If you would establish your business at a point where you would enjoy the best of transportation facilities; where there is an abundance of cheap power, raw materials and labor for industries; where there exists a broad spirit of co-operation between the financial and commercial interests, and where there are all the comforts and conveniences that make for contentment and happiness, Richmond is the place.

It is well worth your earnest consideration.

The Virginia Railway and Power Company, which operates the street railway systems, electric power and light service of Richmond, fully realizes that in a large measure the City's development in keeping with its advantages depends upon the character of service rendered. Consequently, it has brought this service up to a point where it meets the full requirements of all demands put upon it.

This company has a direct interest in Richmond's advancement, and it will co-operate with those seeking to become identified with this City's industrial and commercial life.

Virginia Railway and Power Company

RICHMOND

NORFOLK

PETERSBURG

PORTSMOUTH

SUFFOLK

VIRGINIA

Abrasive Materials.

Abrasive Material Co., Philadelphia, Pa. Carborundum Co., Niagara Falls, N. X. Norton Co., Worcester, Mass. Vitrided Wheel Co., Westfield, Mass.

Accountants.
Baltimore Audit Co., Baltimore, Md.
Crusselle Audit Co., Affanta, Ga.
Interstate Audit Co., Washington, D.
Neville, Chas., Savannah, Ga. n. D. C.

Adding Machines.

Adder Machine Co., Wilkes-Barre, Pa.
Burroughs Adding Machine Co., Detroit, Mich.

Agents. (Manufacturers'.) Allen, Hernert F. L., Washington, D. C.

Agricultural Implements.

Appointation Tron Wks. & Sup. Co., Petersburg, Va., Myers & Bro., F. E., Asbland, O.

Myers & Bro., F. E., Asbland, O.

Air Compressors, (Stationary and Portable.)

Allen, Herbert F. L., Washington, D. C.

American Air Compressor Wks., New York, N. Y.

American Compressor & Pump Co., Battimore, Md.

Blaisdell Machinery Co., Bradford, Pa.

Chicago Pneumatic Tool Co., Chicago, H.

General Electric Co., Schenectaly, N. Y.

Ingersoll-Rand Co., New York, N. Y.

Union Steam Pump Co., Battle Creek, Mich.

Air Motors. gersoll-Rand Co., New York, N. Y.

Aluminum Products. (Bars, Sheets, Tubes, m Company of America, Pittsburg, Pa.

Alundum Wheels.

Anti-Friction Metals.

AHDETTIGUON MCCHIS.
Bailey Lebby Co., Charleston, S. C.
Dedge Manufacturing Co., Mishawaka, Ind.
Gilbert & Sons Brass Fdry, Co., A., St. Louis, Mo.
Phosphor-Bronze Smelling Co., Philia, Pa.
Virgiula Railway Supply Co., Norfolk, Va.

Architects,
anderson, Cain & Shepherd, Richmond, Va.
ouncan & Cohran, Greenwood, S. C.
ouncan & Cohran, Greenwood, S. C.
cockwood, Greene & Co., Boston, Mass,
letangalin & Johnson, Anchorag, Va.
Hibarra, Hibarra, C., Washington, D. C.
ourling, W. Whaston-Salem, N. C.
washington, D. C.
corting, C. C. Washington, D. C.
corting, C. C. Washington, D. C.
land & Laraye, Columbia, S. C.
lirche, J. E., Greenville, S. C.

Architects' Supplies. Keuffel & Esser, Hoboken, N. J. Starrett Co., L. S., Athol, Mass. Weber & Co., F., Philadelphia, Pa.

Architectural Iron and Sheet Metal Work. Solles Iron & Wire Works, J. E., Detroit, Mich-hesspeake Iron Works, Baltimore, Md., Iron Bes Moines Bridge & Iron Co., Des Moines, Ia, schreiher & Sons Co., The L., Chnelmatt, O., mead Architectural Iron Works, Louisville, Ky.

Art Glass.

anger & Co., Memphis, Tenn. Art Glass and Prisms. (Set in Zinc and

Mniesa Art Glass Co., G. A., St. Louis, Mo.

Asbestos.

Asbestos.
Carolina Portland Cement Co., Charleston, S., Johns-Manville Co., H. W., New York, N. Y., Southern Pipe Covering Co., Inc., Richmond, V.

Asphait.
Armitage Mfg., Co., Richmond, Va.
Barber Asphait Paving Co., Philadelphia, Pa.
Guir Redning Co., Philadelphia, Pa.
Texas Co., The, New York, N. Y.

Asphalt McIters.
underer, Iron Works, G. L., Long Island City,

Asphalt Roofing and Siding. (Bird Sand and Chipped Slate Surfaced.) Bermingham & Seaman Co., Chicago, Ill.

Automatic Buckets, rowning Engineering Co., Cleveland, O.

Automobiles. (Plensure.) Interstate Automobile Co., Muncle, Ind.

Automobiles. (Motor Trucks.) Schneht Motor Car Co., Cincinnati, O.

Axles. [See Car Wheels, Axles and Trucks.] Babbitt Metal. [See Anti-Friction Metal.]

Badges. (Hat and Breast, Electric and Steam Road, Police and Fire Dept.) American Railway Supply Co., New York, N. Y.

Bakers' Machinery. Lynu Superior Co., The, Cincinnati, O.

Bankers and Brokers.

Bankers and Brokers.

Batthuore Trast Co., Haltimore, Md.

Bart, J. H. C., Philidelphia, Pa.

Behavare Trast Co., Whudington, Del.

Electric Bond & Share Co., New York,

Glenn, W. N., Spartanburg, S. C.

Guaranty State Bank & Trust Co., Dallas, Tex.

Halsey & Co., N. W., New York, N. Y.

Lisman & Co., F. J., New York, N. Y.

Mercantile Trust & Deposit Co., Baltimore, Md.

New First National Bank, Columbus, O.

New York Rond & Share Co., New York, N. Y.

Nuveeu & Co., John, Chicago, Ht.

Savannah Bank & Trust Co., Savannah, Ga. New York Bond & Share Co., New York, N. Y. Nuveen & Co., John, Chicago, 1H. Sayannah Bank & Trust Co., Sayannah, Ga. Southern States Developm't Co., New York, N. Y. Violett & Co., Atwood, New York, N. Y.

Banks.
Irst National Bank, Baltimore, Md.
Irst Nati Bank of Key West, Key West, Fla.
Irst National Bank, Elchmond, Va.
uaranty State Bank & Trust Co., Dallas, Tex.
erchants National Bank, Baltimore, Md.
ew First National Bank, Columbus, O.
attonal Exchange Bank, Baltimore, Md.
avannab Bank & Trust Co., Savannab, Ga.

Barannab Bank & Trust Co., Savannab, Ga.

Bank and Office Railings and Grilles.(Iron.)

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Buckeye Wire & Iron Works Co., Columbus, O.
Chattanooga Iron & Wire Wiks., Chat'n'ga, Tenn.
Chesapeake Iron Works, Baltimore, Md.
Olnethnati Mig. Co., Cincinnati, O.
Dow Wire Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Baggott & Co., Baltimore, Md.
Jones & Co., L. E., Baltimore, Md.
Meyers Mig. Co., F. J., Hamilton, O.
Obio Elevator & Machine Co., The, Columbus, O.

Bank Fixtures. use & Thompson, Baltimore, Md.

Bar Iron. (Refined and Galvanized.) atnegle Steel Co., Pittsburg, Pa. testown Plate Washer Co., Philadelphia, Pa.

Bars, Wire, Wire Fabric, etc. (Steel for Con

American Steel & Wire Co., Chicago, III.
Cincinnati Iron & Steel Co., Cincinnati, O.
Concrete-Steel Co., The, New York, N. Y.
Concrete Steel Engineering Co., New York, N. Y.
Franklin Steel Co., Franklin, Pa.
Hoffman & Co., R. C., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburg, Pa.
Wight & Co., W. N., New York, N. Y.

Wight & Co., w. A.,

Bearings. (Ball.)

Bretz Co., J. S., New York, N. Y.

Hyatt Roller Bearing Co., Newark, N. J.

Standard Roller Bearing Co., Philadelphia, Pa.

Bearings. (Brass Journal.)
Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo.

Bearings. (Locomotive and Car.) Keystone Bronze Co., Pittsburgh, Pa.

Bearings. (Ollless.) North Amer. Mataline Co., Long Island City, N. Y.

Bearings. (Roller.) Hyatt Roller Bearing Co., Newark, N. J. Standard Roller Bearing Co., Philadelphia, Pa.

Bells. (Call.) Holtzer-Cubot Electric Co., Boston, Mass.

Bells and Gongs. ational Tube Co., Pittsburg, Pa. restern Electric Co., New York, N. Y.

Western Electric Co., New York, N. Y.

Belting. (Leather, Canvas, Rubber.)

American Supply Co., Providence, B. I.

Bailey-Lebby Co., Charleston, S. C.

Bailmore Betting Co., Baltimore, Md.

Cameron & Barkley Co., Charleston, S. C.

Chesapeake Belting Co., Baltimore, Md.

Diamond Rubber Co., Akron, O.

Gandy Belting Co., Baltimore, Md.

Ladew, Estate Edward, Glen Cove, N. Y.

N. J. Car Spring & Rubber Co., Jersey City, N. J.

Rossendale-Reddaway B. & H. Co., Newark, N. J.

Williams & Sons, I. B., Dover, N. H.

Belting, (Chain.)
Bartlett & Snow Co., C. O., Cleveland, O.
Caldwell & Sons Co., H. W., Chicago, III.
Jeffrey Mig. Co., Columbus, O.
Lluk-Belt Co., Nicebown (Philadelphia), Pa.
Morse Chain Co., 1thaca, N. Y.

Belt Conveyors. Jeffrey Mfg. Co., Columbus, O. Robins Conveying Belt Co., New York, N. Y.

Belt Dressing.
Diamond Rubber Co., Akron, O.
Gandy Belting Co., Baltimore. Md.
Ladew, Estate Edward, Glen Cove, N. Y.

Belt Fasteners.
rescent Belt Fastener Co., New York, N. Y.
Belt Lacing. [See Belting, Leather, Car
Rubber, and Supplies.]

Billets. (Open Hearth.)

tle Forge Co., Erie, rn. Blackboards. (Slate.) st Bangor Con. Slate Co., The, East Bangor, Pa. wwer, J. K., Slatington, Pa. huson, E. J., New York, N. Y.

Block Tackle. (For Wire or Manila Rope.) atterson Co., W. W., Pittsburg, Pa.

Patterson Co., W. W., Pittsburg, Pa.

Blowers and Exhaust Fans.
American Blower Co., Detroit, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Clark Co., Geo. F., Windsor Lecks, Conn.
De Laval Steam Turbine Co., Trenton, N. J.
Garden City Fan Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Green Fuel Economizer Co., Matteawan, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Savanuah Blow Pipe Co., Savatanab, Ga.
Stundard Blower & Metal Mfg. Co., Atlanta, Ga.
Sturtevant Co., B. F., Hyde Park, Mass.

Blueprint Apparatus. euffel & Esser, Hoboken, N. J.

Bileprint Apparatus.

Boilers.

Abendrott & Root Mfg. Co., Newburgh, N. T.

Ames Iron Works, Oswego, N. Y.

Baboeck & Wilcox Co., New York, N. Y.

Brownell Co., Dayton, O.

Cameron & Barkley Co., Charleston, S. C.

Casey-Hedges Co., Ciattanooga, Tenn.

Chattanooga Boiler & Tank Co., Charl'ga, Tenn.

Chicago House Wrecking Co., Chicago, Ill.

Cole Mfg. Co., R. D., Newnan, Ga.

Cooper Co., C. & G., Mt. Vernon, O.

Gem City Boiler Co., Dayton, O.

Gibbes Machinery Co., Columbia, S. C.

Hartley Boiler Works, Montgomery Ala.

Heine Safett E.

Lowland House Works, Montgomery Ala.

Heine Safett E.

Lowlout Boiler & Mfg. Co., Chattanooga, Tenn.

Lowlout Boiler & Mfg. Co., Chattanooga, Tenn.

Lowlout Boiler & Mfg. Co., Chattanooga, Tenn.

Lowlout Boiler Co., Oil City, Pa.

Petrolenn Iron Works Co., Burlington, Ia.

Oil City Boiler Co., Oil City, Pa.

Petrolenn Iron Works Co., Meadville, Pa.

Price Machinery Co., S. M., Norfolk, Va.

Schofield & Sons Co., J. S., Macon, Ga.

Smith-Courtney Co., Richmond, Va.

Southern Engine & Boiler Works, Jackson, Tenn.

Union Iron Works Co., Selma, Aleston, S. O.

Vogt Machine Co., Henry, Louisville, Ky.

Walsh & Weidner Boiler Co., Chattanooga, Tenn.

Boiler Setting.

Parhison-Walker Refractories Co., Pittsburg, Pa.

Boiler Setting. Harbison-Walker Refractories Co., Pittsburg, Pa. Boiler Tubes. [See Tubes, Boiler.]

Boits, Nuts, Rivets, Studs and Washers. Lebanon Valley Iron & Steel Co., Lebanon, Pa. Mitton Mfg. Co., Milton, Pa. Nicetown Plate Washer Co., Philadelphia, Pa. Republic Iron & Steel Co., Youngstown, O.

Bonds. (Surety, etc.)
Fidelity & Deposit Co., Baltimore, Md.

Boring. (Cylinder.) Strickland Machine Co., Richmond, Va.

Bottling Outfits. Vilter Mfg. Co., Milwaukee, Wis.

Box Shooks. Naylor & Co., S. E., Gulfport, Miss.

Brass Goods.
Bulley-Lebby Co., Charleston, S. C.
Buckeye Iron & Brass Works, Dayton, O.
Powell Co., Wm., Cincinnati, O.

Brazings. (Cast Iron.) Richmond Machine Works, Inc., Richmond, Va. Strickland Machine Co., Richmond, Va.

Brass Railings and Grilles, etc. McKenna Bros. Brass Co., Pittaburgh, Pa. Brewers' Machinery. Vilter Mfg. Co., Milwaukee, Wis.

Am. Enameled Brick & Mfg. Co., Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.

Jarolina Portland Cement Co., Charleston, B. C.

Fiske & Co., Inc., New York, N. Y.

Hood, B. Mifflin, Atlanta, Ga.

Hydraulic Press Brick Co., St. Louis, Mo.

Oconce Brick & Tile Co., Milledgeville, Ga.

Pittsburgh-Buffale Co., Pittsburgh, Pa.

Sibley-Menge Brick & Coal Co., Birmingham, Ala.

(Riast Furnace, Coke Oven.)

Ashland Fire Brick Co., Ashland, Ky. Hood, B. Mifflin, Atlanta, Ga.

Brick. (Enameled.) Amer. Enam. Brick & Tile Co., New York, N. Y.

Amer. Enam. Brick & Tile Co., New York, N. Y. Brick. (Fire Clay.)
Ashland Fire Brick Co., Ashland, Ky., Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss., Fiske & Co., Inc., New York, N. Y. Harbison-Walker Refractories Co., Pittaburg, Pa. Killian Fire Brick Works, Killian, S. C. Louisville Fire Brick Works, Highland Park, Ky. Pomona Terra-Cotta Co., Pomona, N. C. Stevens' Sons Co., H., Macon, Ga. Taylor Sons Co., Clas, Cincinnati, O. Union Mining Co., Mt. Savage, Md.

Brick. (Magnesia,) on-Walker Refractories Co., Pittsburg, Pa.

Brick. (Paving.) Carlyle Paving Brick Co., Portsmouth, O. Copeland-Inglis Shale Brick Co., Birmingham, Ala.

Brick. (Silica.) Harbison-Walker Refractories Co., Pittsburg, Pa Brick and Clayworking Machinery and Supplies.

Supplies.
Carnell, George, Philadelphia, Pa.
Fernholtz Brick Machinery Co., St. Louis, Mo.
Freese & Co., E. M., Gallon, O.
Gibbes Machinery Co., Columbia, S. C.
Scott-Madden Iron Works, Keokuk, Iowa.
Steele & Sons, J. C., Statesville, N. C.
Taplin-Rice-Clerkin Co., Akron, O.

Brick Fireplaces. [See Fireplaces, Artistic Brick.]

Brick Machinery. (Sand Lime.) [See Sand-Lime Brick Machinery.]

Brickwork. (Artistie.) iske & Co., inc., New York, N. Y.

Bridges. (Concrete.)

rete Steel Engineering Co., New York, N. Y. oke Bridge Co., Ronnoke, Vm.

Bridges. (Rolling Lift.) cherzer Rolling Lift Bridge Co., Chicago, IR.

Scherzer Rolling Lift Bridge Co., Chicago, and Bridges.

Bridges.

Bridges.

Bridges.

Baltimore Bridge Co., Baltimore, Md.

Baltimore Bridge Co., Baltimore, Md.

Belmont Iron Works, Inc., Philadelphia, Pa., Chicago, Bridge & Iron Was., Chicago, Ill.

Des Moines Bridge & Iron Co., Des Moines, Ia.

Farris Bridge Co., Pittsburg, Pa.

Missouri Val. B'dge & Iron Co., Leavenw'th, Kan.

Riter-Conley Mfg. Co., Pittsburg, Pa.

Ronnoke Bridge Co., Kononoke, V.

Scherzer Rolling Lift Bridge Co., Chicago, Ill.

Vincennes Bridge Co., Vincennes, Ind.

Virghia Bridge & Iron Co., Ronnoke, Va.

York Bridge Co., York, Pa.

Bridge and Structural Iron Paints. trolina Portland Cement Co., Charleston, S. C. attanooga Paint Co., Chartanooga, Tenn. strolf Graphite Co., Detrolt, Mich. Co., Joseph, Jersey City, N. J. andard Paint Co., New York, N. X.

Brimstone. Union Sulphur Co., New York, N. Y.

Briquetting Machinery. (Coal, Lignite, Ore.)

Buckets, (Excavators.)
Browning Mfg. Co., Mansfield, O.
Hayward Co., New York, N. Y.
Monighan Meh. Co., Chicago, Ill.
Owen Bucket Co., Cleveland, O.
Strebner Iron Works, G. L., Long Island City,
New York, N. Y.
Williams Co., The G. H., Cleveland, O.

Williams Co., The G. H., Cleveland, O.

Buckets, (Ore, etc.)

Brown Holsting Mehy, Co., Cleveland, O.

Brown Miff. Co., Mansaded, O.

Caldwell & Son Co., H. W., Chicago, Ill.

Dodge Manufacturing Co., Mishawaka, Ind.

Hayward Co., New York, N. Y.

Link-Belt Co., Nicetown (Philadelphia), Pa.

Owen Bucket Co., Cleveland, O.

Smith Co., T. L., Athanta, Ga.

Williams Co., The G. H., Cleveland, O.

Buhr, Stones.

Buhr Stones. Starr Co., B. F., Baltimore, Md. Starr Co., B. F., Baltimore, Md. Builders and Contractors. Falls City Construction Co., Louisville, Ky. Farris Bridge Co., Pittsburg, Pa. Ferro Concrete Construction Co., Cincinnati, Sciden-Breck Construction Co., St. Louis, M White & Co., J. G., New York, M. Y.

Buildings. (Financed and Erected.) Falls City Construction Co., Louisville, Ky. Gulf Const Construction Co., Houston, Tex.

Guir Const Construction Co., Houston, Tex.
Building Supplies.
Armitage Mfg. Co., Richmond, Va.
Carolina Portland Cement Co., Charleston, S. C.
Chicago House Wrecking Co., Chicago, Ill.
Southeastern Lime & Cement Co., Charleston, S. C.
Southern Building Material Co., Norfolk, Va. Burlap-Inserted Roofing and Siding. (Flex-ible Cement.)

Bermingham & Seaman Co., Chicago, Ill.

Burners. (Oil.) [See Fuel Oil Equipments.] Bushings. (Oilless, for Loose Pulleys.) orth Amer. Metaline Co., Long Island City, N. Y.

North Amer. Metaline Co., Long Island Ca., Cables.

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Westinghouse Elec. & Mig. Co., Plittaburg, Pa.

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American Mach. & Mg. Co., Charlotte, N. O. Crocker-Wheeler Co., Ampere, N. J. Electrical Engineers, Equip. Co., Chicago, III. Electrical Engineers, Equip. Co., Chicago, III. Electrical Engineers, Equip. Co., Chicago, III. Enghery's Elect. & Mr. Was., St. Joseph, Mich. Fort Wayne, Electric W. Was., St. Joseph, Mich. Fort Wayne Electric Co., Chicago III. Wayne, Inchestration of the Control of the Control

Electrical Power-House Supplies. ectrical Engineers' Equip. Co., Chicago, III. Electro Magnet. [See Magnet Electro.] Elevating, Conveying and Power Transmission Machinery. [See also Conveying Mchy, and Power Transmission Mehy.]

frey Mfg. Co., Columbus, O.

Jeffrey Mfg. Co., Columbus, O.

Elevators.
Albro-Clem Elevator Co., Louisville, Rg.
American Machine Co., Louisville, Ky.
Curran Elevator Co., James H., Cincinnati, O.
Hodlister-Willing Co., Quincy, Hil.
Kansas City Elevator Mfg. Co., Carlotte, N. C.
Moffatt Machinery Mfg. Co., Carlotte, N. C.
Olio Elevator & Machine Co., Columbus, O.
Olio Elevator & Mig. Co., Sidney, O.
Sjochel, J. G., Reading, Pa.
Warsaw Elevator Co., Baltimore, Md.
Westbrook Elevator Co., Baltimore, Md.
Westbrook Elevator Co., Daville, Va.

Elevator Safety Appliance. Roth Elevator Safety Co., Inc., Baltimore, Md. Elevator Buckets.
Caldwell & Son Co., H. W., Chleago, Hl.
Dodge Mfg. Co., Mishawaka, Ind.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Philadelphia, Pa.

Link-Belt Co., Philadelphia, Pa.

Elevator Enclosures and Cabs.

Rolles Iron & Wire Works, J. E., Detroit, Mich.
Cinclonati Mg. Co., Cinchunati, O.,
Dow Wire Works, Louisville, Ky.

Duffar & Co., Baltimore, Md.

Duffar, Baggott & Co., Baltimore, Md.
Jones & Co., L. E., Baltimore, Md.

Jones & Co., L. E., Baltimore, Md.

Meyers Mg. Co., The Fred J., Hamilton, O.
Olio Elevator & Machine Co., The, Columbus, O.
Olio Elevator & Machine Co., The, Columbus, O.
Otto Elevator & Machine Co., Dallas, Tex.

Elevator Bara, ISon Wire Rope, 1

Elevator Rope. [See Wire Rope.] Elevator Safety Gates. Ichmond Safety Gate Co., Richmond, Ind.

Emery Wheels, [See Grinding Wheels.]

Emery Wheels. [See Grinding Wheels.]

Engineers—
Combustion.
Improved Equipment Co., New York, N. Y.
CONSULTING.
Grainm. Edgar M., Muskogee, Okla.
Jandon Engineering Co., H. S., Savannah, Ga.
Lewis, Fred H., Birningham, Ala.
Lide, Martin J., Birningham, Ala.
Lide, Martin J., Birningham, Ala.
Lide, Martin J., Birningham, Ala.
Woodmansee, Davidson & Session, Chleago, III.
Young, W. W., New York, N. Y.
Foster-Crelethon-Gond Co., Nashville, Tenn.
Gulf Const Constr. Co., Houston, Tex.
Hagne, John, St. Louis, Mo.
Harlow Co., James H., Baltimore, Md.
Jandon Engineering Co., H. S., Savannah, Ga.
Modit, E. G., Son Antonio, Tex.
Stockity Eng. Co., Houston, Tex.
Stockity Eng. Co., Houston, Tex.
Stockity Eng. Co., Houston, Tex.
Summars & Co., L. L., Chicago, III.
White & Co., J. G., New York, N. Y.
Design, Ony Stranger, Philadelphia, Pa.
Emory & Eisenberg, Philadelphia, Pa.
Lea, Henry I., Chicago, III.
Lockwood, Greene & Co., Boston, Mass.
MacLanchian Eng. Co., J. H., Baltimore, Md.
Manning Huthes Co., Charlette, N. C
Maltiche Arch Hyd. Cons. Co., Ltd., Spartanburg.
Sirrine, J. E., Greenville, S. C.
Spiker, Wm. C., Atlanta, Ga.

Multinle Arch Hyd. Cons. Co., Ltd., Sparta S. C.
S. C.
Sirrine, J. E., Greenville, S. C.
Spiker, Wm. C., Atlanta, Gn.
Stevens, John A. Lowell, Mass.
Virginia Bridge & Iran Co., Ronnoke, Va.
Whitfield, Geo. H., Bichmond, Va.
Beladley Co., New York, N. Y.
Morgan Engineering Co., Memphis, Tenn.
Electrophys.

Beindley Co., New York, N. Y.
Morgan Englueering Co., Memphis, Tenn.
EFFICIENCY.

Macfarren, S. J., Washington, D. G.

ELECTRIC, CIVIL, ETC.
Arnold Co., The, Chicago, Hi.
Erindley Co., New York, N. Y.
Cothran & Cothran, Greenwood, S. G.
Crocker, Wheeler Co., Manpere, N. J.
Brane, Brent S., Charlotte, N. G.
Crocker, Wheeler Co., Charlotte, N. G.
Keilholtz, P. Go., Baltimore, Md.
Layman, E. F., Chenhutt, O.
Lewis, Fred H., Birmingham, Ala,
Lide, Martin J., Birmingham, Ala,
Manning-Hughes C., Charlotte, N. G.
Morgan Engineering Co., Memphis, Tenn.
Fotter, Alexander, W. York, N. Y.
Reding & Howard, Baltimore, Md.
Rucker, B. Parks, Charlotte, N. G.
White & Co., J. G., New York, N. Y.
Whiteld, Gee, H., Richmond, Va.,
Young Co., C. S., San Antonio, Tex.

Bartist-Hayward, Company, The, Baltimor,
Bartist-Hayward, Company, The, Bartist-Hayward, Company, The, Baltimor,
Bartist-Hayward, Company, T

Whitneid, Geo. H., Bledmond, va.,
Young Co., C. S., San Antonio, Tex.
GAS.

Bartlett-Hayward Company, The, Baltimore, Md
Lea, Henry L., Chicago, Ill.
GEOLOGICAL.
Clapp, Frederick G., Pittsburg, Pa.,
Davis, Geo. C., Philadelphia, Pa.,
Froelling & Robertson, Richmond, Va.,
Hydraulic, Sanitary and Sewerage.
Brindley Co., New York, N. Y.
Burgwyn, C. P. Hiebmond, Va.
Harlow Co., James H., Baltimore, Md.
Hatton, T., Ciarkley, Wilmington, Del.
Manning-Holes Co., Charlotte, N. C.,
McCrary, Ch., Br., The J. B., Atlanta, Ga.,
Multiple Aller of the Const. Co., Ltd., Spartanburg, S. C., France, Co., Forder, Co.,
Few., Arlenta, Ga.,
Specialty Eng., Co., Houston, Tex.
Tucker & Laxton, Charlotte, N. C.
Lega, N. C., Long, McC.
Lega, Ch., Roberts, N. G.
Lega, And Repricerating,
Lagon, Libb, St. Louis, Mo.

ICE AND REFRIGERATING. Hague, John, St. Louis, Mo. Tait-Nordmeyer Eng. Co., St. Louis, Mo. ILLUMINATING. Holophane Co., Newark, Ohio.

LANDSCAPE.

Drane, Brent S., Charlotte, N. C.
Reding & Howard, Baltimore, Md.

REINFORCED CONCRETE CONSTRUCTION, BUILD INGS. BRIDGES, ETC. INGS, BRIDGES, ETC.
Concrete Steel Engineering Co., New York, N. Y.
Gardner & Howe, Memphis, Tenn.
Layman, E. F., Cincinnati, O.

WATER-WORKS.
Burgwyn, C. P. E., Richmond, Va.
Myers, E. W., Greensboro, N. C.

Engines.

Engines.

GAS AND GASOLINE.

Blaisdell Machinery Co., Bradford, Pa.

Bogart Gas Power Eng. Co., Buffalo, N. X.

Fairbanks, Morse & Co., Chicago, Ill.

Mietz, A., New York, N. Y.

Otto Gas Engine Works, Philadelphia, Pa.

Power Mfg. Co., Lima, Otho.

Standard Gas Power Co., Atlanta, Ga.

Westinghouse Machine Co., The, Pittsburg, Pa.

Offic. Covington Meb. Co., New York, N. X. Wietz, A., New York, N. V. Power Mfg. Co., Linn, Ohio,

Engines. (Steam.)

Allis-Chulmers Co., Milwaukee, Wis.

Amarkann Blower Co., Detroit, Mich. nalmers Co., Milwaukee, Wis.

an Blower Co., Detroit, Miles.

an Engine Co., Bound Brook, N. J.

an Holst & Derrick Co., St. Paul, Minn.

ron Works, Oswego, N. J.

lagine Works, Indianapolis, Ind.

gine Co., Erie, Fa.

il Co., The, Dayton, O.

Forge Co., Buffalo, N. Y.

i & Barkley Co., Chirleston, S. C.

Honse Wrecking Co., Chicago, Ill.

Co., C. & G., Mt. Vernon, O.

'& Elect. & Mech. Wis., St. Jusenh, Mich. i Forge Cu, Burnau,

m & Barkley Co., Charleston, S. U.

o Honse Wrecking Co., Chicago, IB.

Co., C. & G., Mr. Veruon,

g's Elect. & Mech. Wiss., St. Joseph, Mich.

Machinery Co., Columbia, S. C.

vald Co., I. & E., Chenmath, O.

1 & Wedge Co., The, Zamesville, O.

burg Fdry, & Mach. Wks., Harrisburg, Pa.

4, Owen, Rentschler Co., Hamilton, O.

m, Stanwood & Gamble Co., Chelmath, O.

& Co., James, Springfield, O.

rd Irou Works, Adustas, Ga.

suburg Iron Works, Charlotte, N. C.

Machine Works, Baldwinsville, N. X.

From Works Co., Burlington, Ia.

y Boller Co., Oil Cily, Pa.

Works Co., Meadyllle, Pa. urray fron Works Co., Burlington, Ia., II Cily Roller Co., Oil Cily, Pa., beenix Iron Works Co., Mesdville, Pa., rice Machinery Co., S. M., Norfolk, Va., Idgway Dynamo & Engine Co., Ridgway, Pa., choffeld's Sons Co., J. S., Macon, Ga., mith-Courtney Co., Richmond, Va., outhern Engine & Boller Works, Jackson, Tenn. urtervant Co., B. F., Hyde Park, Mass. nion Iron Works, Co., Scima, Ala., liter Mg. Co., Milwankee, Wis. estingbouse Machine Co., Pittsburg, Pa.

Engines. (Truck and Aeroplane.) Black & Decker Mfg. Co., Baltimore, Md.

Envelope Sealer and Stamper.

Envelopes.

Excavating Machinery. (Steam Shovels, etc.) Excavating Machinery. (Steam Shovels, etc. American Locomotive Co., New York, N. Y. American Steel Bredge Co., Ft. Wayne, Ind. Baldwin Equipment & Supply Co., Chicago, Ill. Browning Mg. Co., Mansfeld, O., Boeyrns Co., So. Milwankee, Wis. Cable Excavator Co., Fhiladelphia, Pa. Fairleanka Steam Shovel Co., Marion, O. Hayward Co., New York, N. Y. Jeffrey Mg. Co., Columbus, O., Lidgerwood Mg. Co., New York, N. X. Males Co., Chichmati, O. Marion, O. Marion, O. Monighan Machine Co., Chicago, Ill. Owen Bucket Co., Cieveland, O. Williams Co., The G. H., Cleveland, O. Williams Co., The G. H., Cleveland, O.

Excelsior Machinery. Kline, Lewis T., Alpena, Mich.

Exhaust Heads.

Abendroth & Root Mfg. Co., Newburgh, N. Y.
American Spiral Pipe Works, Chicago, Ill.
Greenwald Co., I. & E., Cincinnati, O.
Hoppes Mfg. Co., Springfield, O.

Exhibits. (Machinery Builders' Equipment and Supplies.) and Supplies.)

Bourse, The, Philadelphia, Pa.

Builders' Exchange, Baltimore, Md.

Expansion Joints. Alberger Condenser Co., New York, N. Y. Badger & Sons Co., E. B., Boston, Mass.

Explosives. du Pont-de Nemours Powder Co., E. I., Wilmington, Del.

Extension Steps. (For Railroad Coaches.)

Blake Car Step Works, Charlotte, N. C.

Factory Sites. (Town and Railroad.) [See Industrial, Agricultural and Commercial Opportunities.]

Fans. (Electric.) General Electric Co., Schenectady, N. Y. Robbins & Myers Co., Springfield, O. Western Electric Co., New York, N. Y. Westingbouse Elec. & Mfg. Co., Pittsburg, Pa.

Fans. (Ventilating.) [See Blowers, Exhaust Fans.]

Fastener Driving Machine. (Corrugated Joint.)

Saranac Machine Co., St. Joseph, Mich. Feed-Water Heaters and Purifiers.

Feed-Water Heaters and Purifiers.
Alberger Condenser Co., New York, N. Y.
American Water Softener Co., Philadelphia, Pa.
Blake & Kn. N.
York, N.,
Brownell Co., Dayton, O.
Bæter Machine Works, Pittston, Pa.
Gibbes Machinery Co., Columbia, S. C.
Greenwald Co., I. & E., Cincinnati, O.
Hoppes Mig. Co., Springfield, O.
McAdoo, Thomas, Philadelphia, Pa.
Murray Iron Works Co., Burlington, Ia.
National Pipe Bending Co., New Haven, Conn.
Scaffe & Sons Co., Wm. B., Pittsburg, Pa.
Stewart Heater Co., Buffalo, N. Y.
Wilmington Iron Works, Wilmington, N. C.

Faed-Water Heater and Purifier and Oli Separator Combined. Blake & Knowles Steam Pump Works, New York, N. Y. Stewart Heater Oo., Buffalo, N. Y.

Felt. (Building, Shenthing.) Barrett Mfg. Co., Philadelphia, Pa.

Pencing, Entrance Gates. (Iron, Steel, Wire.) Fencing, Entrance Cates. (Iron, Steel, Wire.)
American Steel & Wire Co., Chicago, Ill.
Bolles Iron & Wire Works, J. E., Detroit, Mich.
Dow Wire Works, Louisville, Kr.
Dufur & Co., Baltimore, Md.
New Jersey Wire Cloth Co., Trenton, N. J.
Ohio Blevator & Mach. Co., The, Columbus, O.

Fortilizer Machy. [See also Phosphate Mchy.] Fertilizer Macny. 1982 and 1984.
Sampbell, P. F., Philadelphia, Pa.
Pratt Eng. & Mch. Co., Atlanta, Ga.
Innith Co., T. L., Atlanta, Ga.
Falk & Murdock Iron Works, Charleston, S. G.
Walker & Elliott, Wilmington, D. G.
Wilmington Iron Works, Wilmington, N. C.

Files. Files.

Barnett Co., G. & H., Philadelphia, Pa.

Delta File Works, Philadelphia, Pa.

Nicholson File Co., Providence, B. I.

Filters. (Water, for Domestic and Inquestrial Purposes.) Purposea.)
American Water Softener Co., Philadelphia, Pa. International Filter Co., Chicago, Ill. Lynn Superior Co., The, Cincinnati, O., New York Con. Jewell Fil. Co., New York, N. Y. Roberts Filter Mrg. Co., Philadelphia, Pa. Scaife & Sons Co., Wm. B., Pittsburg, Pa. Tucker & Laxton, Charlotte, N. C.

Financial Publication. Financial Review, New York, N. Y.

Fire Alarm Boxes.

Balto. Meh. Products Co. (Relay Station P. O.),
Baltimore, Md.

Fire Clay Brick. [See Brick, Fire Clay.] Fire Box Blocks. shland Fire Brick Co., Ashland, Ky.

Fire Door Fixtures. Peters & Son. Jus., Philadelphia, Pa. Victor Mfg. Co., Newburyport, Mass.

Fire Extinguishers.

adger & Sons Co., E. B., Boston, Mass.

eneral Fire Extinguisher Co., Providence, R. I.

Fire Escapes.

olles from & Wire Works, J. E., Detroit, Mich.

nesaneake from Works, Baltimore, Md.

Fire Insurance. Hartford Fire Insurance Co., Hartford, Conn.

Fireplaces. (Artistic Brick.) Fiske & Co., Inc., New York, N. Y. Fireproof Building Construction. (Steel.)

Fireproof Building Material. histrom Metallic Door Co., Jamestown, N. Y.

Fireproof Doors and Shutters. Dalistrom Metallic Door Co., Jamestown, N. Y. Klunear Mfg. Co., Columbus, O. New Orleans, La. Richmond Safety Gate Co., Richmond, Ind. United States Metal Products Co., New York, N. Y. Victor Mfg. Co., Newburyport, Mass.

Fireproof Windows. [See Window Frames and Sashes (Fireproof).]

Fire Protection Hardware. eters & Son, Jas., Philadelphia, Pa.

Peters & Son, Jas., Philadelphia, Pa.

Flanges. (Iron and Steel.)

American Cast Iron Pipe Co., Birmingham, Ala.,
American Pipe & Construction Co., Phila., Pa.
American Spiral Pipe Works, Chicago, Ill.
Cameron Steam Pump Wiss., A. S., New York, N. Y.
Dart Manufacturing Co., E. M., Providence, R. I.
Gemeral Fire Extinguisher Co., Providence, R. I.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
McWane Pipe Works, Lynchburg, Va.
McWane Pipe Works, Lynchburg, Pa.
U. S. Cast Iron Pipe & Fdy, Co., New York, N. Y.
Whitlock Coll Pipe Co., Hartford, Com.
Wood & Co., R. D., Philadelphia, Pa.

Flexible Joints. Moran Flex. Steam Joint Co., Inc., Louisville, Ky. Flooring. (Cement.) agostin & Angelini Bros., Montgomery, Ala.

Flooring. (Hardwood, Maple, Oak.) Carolina Portland Cement Co., Charleston, B. C. Nathville Harow of Flooring Co., Nashville, Tenn.

Flour and Grist Mill Machinery and Supplies. piles.
Caldwell & Sons Co., H. W., Chicago, Ill.
Gibbes Machinery Co., Columbia, S. C.
Nordyke & Marmon Co., Indianapolis, Ind.
Salem Foundry & Machine Works, Salem, Va.
Starr Co., B. F., Baltimore, Md.
Ventch & Co., L. R., Loulsville, Ky.
Wolf Co., Chambersburg, Pa.

Flushtank Regulator. dern Iron Works, Quincy, Ill.

Flushtanks. Merritt & Co., Camden, N. J.

Foot Valves.
ameron Steam Pump Wks., A. S., New York, N. Y. Forges.
Buffalo Forge Co., Buffalo, N. Y.
Sturtevant Co., B. F., Høde Park, Mass.

Forgings.

Richmond Forgings Corporation, Richmond, Va. Welmer Chain & Iron Co., Lebanon, Pa. Forgings. (Hammered.) rie Forge Co., Erie, Pa. Forms. (Steel Collapsible.)

nerete Form & Engine Co., Detroit, Mich. Foundations. (Waterproof.)
Underground Constr. Co., The, St. Louis, Mo.

Foundations. (Open or Pneumatic.) issouri Val. Bridge & Iron Co., Leavenw'th, Kan.

Foundry Equipment and Supplies. Parson Co., J. W., Philadelphia, Pa.

Frogs. [See Rallroad Frogs and Switches.] Fuel Economizer. reen Fuel Economizer Co., Matteawan, N. Y. urtevant Co., B. F., Hyde Park, Mass.

Fuel Oil. Gulf Refining Co., Pittsburg, Pa. Texas Co., The, New York, N. Y.

Fuel Oil Equipment.
Petroleum Iron Works Co., Sharon, Pa. Furnace Builders. Riter-Couley Mfg. Co., Pittsburg, Pa.

Fuses, Bases and Fittings.
Johns-Manville Co., H. W., New York, N. Y.

Galvanized Steel and Iron. Galvanized Steel and Iron.

American Sheet & Tin Plate Co., Pittaburg, Pa.

J. C. H. Galvanizing Co., Philadelphia, Pa.

La Belle Iron Works, Steubenville, O.

McCalla, Harold, Philadelphia, Pa.

New Orleans Roof & Metal Co., New Orleans, La.

Wood Iron & Steel Co., Alan, Philadelphia, Pa.

Voongstown Sheet & Tube Co., Youngstown, O. Garages. (Fireproof and Portable.) Harry Steel Co., O. K., St. Louis, Mo.

Gas Blowers. (Turbine.)
erry Steam Turbine Co., New York, N. Y.

Gas Compressors.

Blaisdell Machinery Co., Bradford, Pa. Ingersoll-Rand Co., New York, N. Y.

Gas Engines. [See Engines, Gas.] Gas Holders. Bartlett-Hayward Co., The, Baltimore, Md. Chicago Bridge & Iron Wks., Chicago., Ill

Gas Plants.
'estern Gas Construction Co., Ft. Wayne, Ind.

Gas Plants and Benches. Improved Equipment Co., New York, N. Y.

Gas Plants. (Coal and Water.) artlett-Hayword Co., The, Baltimore, Md.

Gas Producers.

Bogart Gas Power Eng. Co., Buffalo, N. Y.
Improved Equipment Co., New York, N. Y.
Otto Gas Engine Works, Philadelphia, Pa.
Standard Gas Power Co., Atlanta, Ga.
Westinghouse Machine Co., Pitsburgh, Pa.
Wood & Co., R. D., Philadelphia, Pa.

Gasoline and Kerosene. Gulf Refining Co., Pittsburg, Pa. Texas Co., The, New York, N. Y.

Gas and Steam Fitters' Tools. Saunders' Sons, D., Yonkers, N. Y.

Gaskets. (Rubber.) N. J. Car Spring & Rubber Co., Jersey City, N. J.

N. J. Car Spring & Rubber Co., Jersey City, N. J. Gears.

Albro-Clem Elevator Co., Philadelphia, Pa. Brown Co., A. & F., New York, N. Y. Caldwell Co., inc., W. E., Louisville, Ky. Caldwell & Son Co., H. W., Chicago, III. Cresson Co., Geo. V., Philadelphia, Pa. Dayton Globe Iron Works Co., Dayton, O. Dodge Manufacturing Co., Mishawaka, Ind. Earle Gear & Machine Co., The, Philadelphia, Pa. Jeffrey Mig. Co., Columbus, O., Foole Engineering & Machine Co., Baltimore, Md. Positive Clutch & Pulley Works, Buffalo, N. Y. Trump Mig. Co., Springdeld, O. Geologists.

Clapp, Frederick C., Pittsburgh, Pa. Froebling & Robertson, Richmond, Va.

Glass. (Plate, etc.) Binswanger & Co., Memphis. Tenn. Holophane Co., Newark, Ohio.

Governors. ckering Governor Co., Portland, Conn.

Grain Elevator Supplies.
Caldwell & Sons Co., H. W., Chicago, Ill.
Dodge Manufacturing Co., Mishawaka, Ind.
Jeffrey Mig. Co., Columbus, O.
Link-Belt Co., Nicetown (Philadelphia), Pa.

Granite. Harris Granite Quarries Co., Salisbury, N. C.

Graphite.

Detroit Graphite Co., Detroit, Mich.

Dixon Crucible Co., Joseph, Jersey City, N. J. Grates and Grate Bars. bomas Grate Bar Co., Birmingham, Ala.

Gravel. Arundel Sand & Gravel Co., Baltimore, Md. Lathrop & Co., C. P., Richmond, Va.

Greases and Lubricating Compounds. Cook's Sons, Adam, New York, N. Y.
inlens Signal Oll Co., Franklin, Pa.
Kohinson & Son Co., Wm. C., Baltimore, Md.
Fexas Co., The, New York, N. Y.

Grease and Oil Cups and Lubricators. ook's Sons, Adam, New York, N. Y. Grinders. (Gypsum, Limestone, etc.) Gardner Crusher Co., New York, N. Y. Williams Pat. Crusher & Pulv. Co., Chicago, Ill.

Grinding Wheels.

Abrusive Material Co., Philadelphia, Pa. Carborundum Co., Niagara Falis, N. Y. Norton Co., Worcester, Mass. Vitrified Wheel Co., Westfield, Mass.

Groovers. Huther Bros. Saw Mfg. Co., Bochester, N. Y. Gunpowder.
du Pont-de Nemours Powder Co., M. I., Wilming
ton, Del.

Hammers. (Steam, Power, Pneumatic.) Chicago Pneumatic Tool Co., Chicago, Ill. Independent Pneumatic Tool Co., Chicago, Ill. Ingersoll-Rand Co., New York, N. Y.

Hand Elevators. McKenna Bros. Brass Co., Pittsburgh, Pa., Sidney Elevator Mfg. Co., Sidney, O.

Handle Machinery. [See Woodworking Mchy.] Hangers. [See Pulleys, Shafting and Hangers.] Hardwood Doors and Trim.

e & Felton Lumber Co., Macon, Ga. Hauling Engines. (Steam Traction.)
Case Threshing Mach. Co., J. I., Racine, Wis.

Hay Tools. Myers & Bro., F. B., Ashland, O.

Heater. (Portable, for Bituminous Pavements.) Ruggles-Coles Engineering Co., New York, N. Y. Heating Apparatus, Engineers and Con-tractors.

tractors.
American Blower Co., Detroit, Mich.
Bartlett-Hayward Co., Baltimore, Md.
Buffato Forge Co., Buffa N.
Monitor Steam Generator Mfg. Co., Balto., Md.
Peck-Hammond Co., The, Cinchnati O.
Sturtevant Co., B. F., Hyde Park, Mass.

Sturtevant Co., B. F., Hyde Park, Mass.

Holsting Machinery.

American Hoist & Derrick Co., St. Paul, Minn.
Brown Holsting Mchy. Co., Cleveland, O.
Byers Machine Co., John F., Bavenna, O.
Clyde Iron Works, Duluth, Minn.
Contractors' Plant Mg. Co., Ltd., Buffalo, W. Y.
Exeter Machine Works, Pittston, Pa.
Flory Mg. Co., S., Bangor, Pa.
Hayward Co., Niew York, N. Y.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Lidgerwood Mg. Co., New York, N. Y.
Wales Co., Cincinnati. O.
Mead-Morrison Mg. Co., Cambridgeport,
Mass.
Monighan Machine Co., Chicago, Ill.
National Holsting Engine Co., Harrison, M. J.

Smith Co., T. L., Atlanta, Ga. Stroudsburg Engine Works, Stroudsburg, Pa. Williamson Bros. Co., Philadelphia, Pa.

CHAIN.
Ford Chain Block & Mfg. Co., Philadelphia, Pa.
Speidel, J. G., Beading, Pa.

Speidel, J. G., Heading, Pa.
ELECTRIC.
American Hoist & Derrick Co., St. Paul, Miss
Lidgerwood Mfg. Co., New York, N. Y.
Monighan Mch. Co., Chicago, Ill.
Northern Engineering Works, Detroit,
Patten Mfg. Co., Chuttanooga, Tean. St. Paul, Mink, N. Y.

PNEUMATIC MOTORS.
Chicago Pneumatic Tool Co., Chicago, Ill.
Ingersoil-Rand Co., New York, N. Y.

Hoops, Bands, etc. (Galvanized.) J. C. H. Galvanizing Co., Philadelphia, Pa. McCalla, Harold, Philadelphia, Pa. Hoops. (Barrel.)

American Steel & Wire Co., Chicago, Ill. Carnegle Steel Co., Pittsburg, Pa. Hose.

Eureka Fire Hose Mfg. Co., New York, N. Y. N. J. Car Spring & Bubber Co., Jersey City, N. J. Hotels. otel Essex, Boston, Mass.

Hot Water Service Heaters. Iberger Pump Co., New York, N. T. Hydrants.

nydrants.

Bourbon Copper & Brass Wks Co., Cincinset, Columbian Iron Works, Chattanooga, Tean, Gilmongan Pipe & Foundry Co., Lynchburg, Ya. Goulds Mfg. Co., Seneca Falls, N. Y. Myers & Bro., F. E., Ashland, O. Wood & Co., B. D., Philadelphia, Pa.

Hydraulic Giants. merican Spiral Pipe Works, Chicago, III.

Hydraulic Rams. Goalds Mfg. Co., Seneca Falls, N. Y. Rife Engine Co., New York, N. Y.

Licemsking Machinery and Supplies.
Columbus Iron Works Co., Columbus, Ga.
Cremnery Fackage Mfg. Co., Chicago, Ill.
Cremnery Fackage Mfg. Co., Chicago, Ill.
Hagne, John, St. Louis, Mo.
Housington Machine Co., Wilmington, Del.
Thit-Nordmeyer Eng. Co., St. Louis, Mo.
Vilter Mfg. Co., Milwaukee, Wis.
Vogt Machine Co., Henry, Louisville, Kg.
York Mfg. Co., York, Fa.

incorporators. (Companies.) Delaware Trust Co., Wilmington, Del.

Industrial, Agricultural and Commercial Opportunities.

CITIES AND TOWNS

CITIES AND TOWNS.

Atlanta, Ga., Ga. Bureau of Indus'y & Immira.

Baltimore, M.A., Gas & Electric Co.

Fayetteville, N. C., Chamber of Commerce,

Newport News, Ya., Old Dominion Land Co.

Texus City, Tex., Texus City Transportation O.

RAILENDAS.

Atlanta, Birmigh'm & Atlantic B. R., Atlanta, 9t.

Atlanta, Birmigh'm & Atlantic B. R., Atlanta, 9t.

Atlanta & West Point R. R. Co., Montgomer, Al.

Baltimore & Ohio Railroad, Baltimore, Md.

Carolina, Clinchield & O. Ry., Johnson City, Tess.

Central of Georgia Ry. Co., Savamah, Ga.

Florida East Coust Rwy., St. Augustine, Fla.

Ilmoris Central Railroad Co., Cleago, Ill.

Asilland, Federicksburg & Potomac Railroad,

Asilland, Federicksburg & Potomac Railroad,

Asilland, Co., Washington, D. O.

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Virginia Railway & Power Co., Richmond, Va.

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Field & Co., Inc., Philadelphia, Pa.

Boffman & Co., R. C., Baltimore, Md.

Josef & Laughlin Steel Co., Pittsburg, Pa.

Leanon Valley Iron & Steel Co., Lebanon, Pa.

La Belle Iron Works, Steubenville, O.

Bepoble Iron & Steel Co., Youngstown, O.

Tensessee Coul, Iron & R. R. Co., Birm'gh'm, Ala.

Wood Iron & Steel Co., Alan, Philadelphia, Pa.

Steal (Copp. Hearth)

Steel. (Open Hearth.) Eric Forge Co., Eric, Pa.

Steels. (Tool.)

Field & Co., Inc., Philadelphia, Pa.

Jessops Sons Steel Sales Co., Wm., St. Louis, Mo.

Steel. (Vanadium.) Carnegie Steel Co., Pittsburg, Pa.

Steel Buildings. (Designers, Builders.)

Breins Bridge Co. of New York, New York, N. Y.

altmore Bridge Co., Baltimore, Md.

artlett-Hayward Co., The, Baltimore, Md.

beapeake Iron Works, Baltimore, Md.

beapeake Iron Works, Baltimore, Md.

clicago Bridge & Iron Wiss., Chicago, Ill.

artis Bridge Co., Pittsburg, Pa.

baouri Valley Bridge & Iron Co., Leavenworth,

Kans.

Kans. The Co., Delindelphia, Pa.

Rheenix From Co., Philadelphia, Pa.

Rise-Conicy Mfg. Co., Pittsburg, Pa.

Ranoke Bridge Co., Ronnoke, Va.

Ranoke Bridge Co., The L., Cincinnati. O.

Ranoke Architectural from Works, Louisville, Ky.

Tighia Bridge & Iron Co., Roanoke, Va.

Steel Casting.
Cracible Steel Castings Co., Lansdowne, Pa.,
Softman & Co., R. C., Bultimore, Md.,
Bellance Steel Casting Co., Pittsburg, Pa.,
Riverside Steel Casting Co., Newark, N. J.

Steel Plate Work.

Steel Plate Work.

Steel Plate Work.

Sartlett-Hayward Co., The, Baltimore, Md.

Oasy-Hedges Co., Chattanooga, Tenn.

Oattanooga Belder & Tank Co., Chat'n'ga, Tenn.

Olego Bridge & Iron Wks., Chicago, Ill.

Boman & Co., R. C., Baltimore, Md.

Phoenix Iron Co., Philadelphia, Pn.

Epphile Iron & Steel Co., Youngstown, O.

Biter-Conley Mfg. Co., Pittsburgh, Pa.

Steel Protector. (Concrete Curb Steps, etc.)
[See Protector Steel.]

Steel Sheet Piling. mes & Laughlin Steel Co., Pittsburg, Pa.

Stencilis. Maltimore Office Supply Co., Baltimore, Md. Dirie Seal & Stamp Co., Atlanta, Ga.

Steps. (Extension, for Rallroad Coaches.)
Blake Car Step Works, Charlotte, N. C.
Stirrups. (Bullding.)
Gesapeake Iron Works, Baltimore, Md.

Stock Certificates, Bonds and Seals.

Baltimore Office Supply Co., Baltimore, Md. Dirie Seal & Stamp Co., Atlanta, Ga.

Stokers. (Mechanical.)

Babook & Wilcox Co., New York, N. Y.

Barrisburg Fdry. & Mach. Works, Harrisburg, Pa.

Westinghouse Machine Co., Pitteburg, Pa.

Storage Batteries.

Be. Storage Battery Co., The, Philadelphia, Pa. Les Electric Co., Battimore, Md.

Westinghouse Machine Co., Pittsburg, Pa.

Strainers.

Structural Steel and Iron.

Merican Bridge Co. of New York, New York, N. Y.

Baltimore Bridge Co. of New York, New York, N. Y.

Baltimore Bridge Co., Baltimore, Md.

Bartiett-Hayward Co., The, Baltimore, Md.

Belmont Iron Works, Inc., Philadelphia, Ps.

Camegie Steel Co., Pittisburg, Ps.

Chespeake Iron Works, Baltimore, Md.

Chespeake Iron Works, Editimore, Md.

Chespeake Iron Works, Chicago, III.

Chacinati Iron & Steel Co., Cincinnati, O.

Des Moines Bridge & Iron Co., Des Moines, In.

Dictrich Bron., Baltimore, Md.

Jones & Laughlin Steel Co., Pittsburg, Ps.

Missouri Valley Bridge & Iron Co., Leavenworth,

Kans. Missouri Valley Bridge & Iron Co., Leans.
Lana.
Paocaix Iron Co., Philadelphia, Pa.
Bepublic Iron & Steel Co., Youngstown, O.

Riter-Conley Mfg. Co., Pittsburg, Pa.
Roanoke Bridge Co., Roanoke, Va.
Roanoke Iron Works, Inc., Roanoke, Va.
Schrober & Sons Co., The L., Clincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.
York Bridge Co., York, Pa.

Stump Pullers. mmerman Steel Co., M. R., Lone Tree, M.

Sugar-Mill Machinery. Pratt Engineering & Mach. Co., Atlanta, Ga.

Sulphur.

Super-Heaters. (Steam.) Bahcock & Wilcox Co., New York, N. T. Power Specialty Co., New York, N. Y.

Surveying Instruments. Keuffel & Esser, Holoken, N. J. Weber & Co., F., Philadelphia, Pa.

Switchboards, Switches, etc.
Engberg's Elect. & Mech. Wks., St. Joseph, Mich.
Fort Wayne Electric Works, Fort Wayne, Ind.
General Electric Co., Schenectady, N. Y.
Westinghouse Electric & Mfg. Co., Pittsburg, Pa.

Switches. [See Railroad Frogs and Switches.] Switchstands. American Valve & Meter Co., Cincinnati, O. Weir Frog Co., Cincinnati, O.

Tachometers. (Electric.)
Electric Speedometer Co., Washington, D. C.
Tackle Blocks. (For Wire or Manlia Rope.)
Patterson Co., W. W., Pittsburg, Pa.

Tags. cennison Mfg. Co., Boston, Mass.

Tanks. (Iron and Steel.)

American Water Softener Co., Philadelphia, Pa. Bartlett-Hayward Co., The, Baltimore, Md. Caldwell Co., Inc., W. E., Louisville, Ky. Case Threshing Mch. Co., J. I., Racine, Wis. Casey-Hedges Co., Chattanooga, Tenn. Chicago Bridge & Iron Wiss., Chicago, Ill. Cole Mfg. Co., R. D., Newnan, Ga. Des Moines Bridge & Iron Co., Des Moines, Is. Gem City Boiler Co., Dayton, O., Harry Bros. Co., Dallas, Tex. Hartley Boiler Co., E., Williamsport, Pa. Keeler Co., E., Williamsport, Pa. Keeler Co., E., Williamsport, Pa. Kenniestt Co., Chicago Heightis, Ill. Lombard Iron Works, Augusta, Ga. Lookout Boiler & Mfg. Co., Chattanooga, Tenn. New Orleans Etg. & Metal Wiss., New Orleans, La. Oil City Pia.
Petroleum Iron Works Co., Sharon, Pa. Riter-Conley Mfg. Co., Chitsburg, Pa. Sculfe & Sons Co., Wm. B., Pittsburg, Pa. Sculfe & Sons Co., Usabard, Nashville, Tenn. Virginia Bridge & Iron Co., Roanoke, Va. Walsh & Weidner Boiler Co., Chattanooga, Tenn. Tanks. (Wood.)

Tanks. (Wood.)
Baltimore Cooperage Co., Baltimore, Md.
Sudwell Co., Inc., W. E., Louisville, Ky.
Daylis & Son, G. M., Plaitaka, Fla.
Sydnor Pump & Well Co., Richmond, Va.

Tapes. (Measuring.) Keuffel & Esser, Hoboken, N. J. Lufkin Rule Co., Saglnaw, Mich. Starrett Co., L. S., Athol, Mass.

Telephones. (Supplies, Equipment.
Pledmont Electric Co., Asheville, N. C.
Western Electric Co., New York, N. Y.

Telephone Cable.

Western Electric Co., New York, N. Y. Telephone Poles. [See Crossties.]

intern'i Creo. & Constr. Co., Galveston, Tex. Western Electric Co., New York, N. Y. Terra-cotta.

Terra-cotta.
Atlanta Terra-Cotta Co., East Point, Ga.
Bihh Sewer Pipe Co., Macon, Ga.
Maryland Terra-Cotta Co., Baltimore, Md.
Pomona Terra-Cotta Co., Pomona, N. C.
Southern Building Material Co., Norfolk, Va.
Stevens' Sons Co., H., Macon, Ga.

Threshers.

ardwell Machine Co., Richmond, Va.

ase Threshing Mch. Co., J. I., Racine, Wis.

Tie Plates. (Railways.) Virginia Railway Supply Co., Norfolk, Va.

Tile. (Drain, Floor, etc.) Amer. Enam. Brick & Tile Co., New York, N. Y. Bibb Sewer Pipe Co., Macon, Ga. Scouce Brick & Tile Co., Milledgeville, Ga. Tile. (Mosaic.) gostin & Angelini Bros., Montgomery, Ala. uthern Mossic Tile Co., Birmingham, Ala.

Tile. (Roofing.)
ational Roofing Tile Co., Lima, O.

Tin and Terne Plates. American Sheet & Tin Plate Co., Pittsburg, Pa. Merchant & Evans Co., Philadelphia, Pa.

Tobacco Machinery. Buckeye iron & Brass Works, Dayton, O. Cardwell Machine Co., Richmond, Va. Tool Steels.

Steel Sales Co., Wm., St. Louis, Mo. Tools. (Machiniste'.) Manning, Maxwell & Moore, Inc., New York, N. Y. Morse Twist Drill & Mich. Co., New Bedford, Mass.

Tools. (Mechanical.)
Starrett Co., L. S., Athol, Mass.
Tools. (Pneumatic.)
American Compressor & Pump Co., Baltimore, Md.
Chicago Pneumatic Tool Co., Chicago, III.
independent Pneumatic Tool Co., Chicago, III.
lngersoll-Rand Co., New York, N. X.

Torches. Wall Mfg. Supply Co., P., Allegheny, Pa.

Towers. (Steel and Wood.)

Baltimore Cooperage Co., Baltimore, Md.
Caldwell & Co., Inc., Wm. E., Louisville, Ky.
Chattanoga Boller & Tank Co., Ohat'n'ga, Tenn.
Chicago Bridge & Iron Wks., Chicago, Ill.
Cole Mfg. Co., R. D., Newnan, Gs.
Des Moines Bridge & Iron Co., Des Moines, Is.

Traction Engines. Case Threshing Mach. Co., J. I., Racine, Wis.

Tramway. (Overhead.)
orthern Engineering Works, Detroit, Mich.
peidel, J. G., Reading, Pa.

Tramway. (Wire Rope.)
Broderick & Bascom Rope Co., #t. Louis, Me.
Caldwell & Sons Co., H. W., Chicago, III.
Link-Belt Co., Nicetown (Philadelphia), Ps.

Transformers.
Crocker-Wheeler Co., Ampere, N. J.
Moloney Electric Co., St. Louis, Mo.
Triumph Electric Co., Cincinnati, O.

Transmission Line Supplies. (Electric.) lectrical Engineers' Equip. Co., Chicago, Ill.

Trench Excavator.

American Steel Dredge Co., Ft. Wayne, Ind.

Fairbanks Steam Shovel Co., Marion, O.

Monighan Machine Co., Chicago, Ill.

Trucks. (Motor.) chacht Motor Car Co., Cincinnati, Obio. Trucks. (Platform, Freight, Mill, Factory, etc.)

Chase Fdry. & Mfg. Co., Columbus, O. Clark Co., Geo. P., Windsor Locks, Cons. Howe Scale Co., New York, N. Y. Rome Scale & Mfg. Co., Rome, Ga.

Trucks. (Storage Battery Auto.)

Trucks. (Wood and Steel for Portable Ma-Empire Manufacturing Co., Quincy, Ill.

Trust Companies, [See Bankers and Brokers.] Tube Well Strainers. Cook Well Co., St. Louis, Mo.

Tubes. (Boller.)
Allegheny Steel Co., Pittsburgh, Pa.
Clucinnati Iron & Steel Co., Clucinnati, O.
National Tube Co., Pittsburg, Pa.

Tubing.
Fleid & Co., Inc., Philadelphia, Pa.
La Belle Iron Works, Steubenville, O.
National Tube Co., Pittsburg, Pa.
Youngstown Sheet & Tube Co., The, Youngstown, O.

Turbines. (Hydraulic.)
Allis-Chalmers Co., Milwaukee, Wis.
Davis Foundry & Machine Works, Rome, Ga.
Dayton Globe Iron Works Co., Dayton, O.
Leffel & Co., James, Springfield, O.
Poole Engineering & Mach. Co., Baltimore, Md.
Smith Co., S. Morgan, York, Pa.
Trump Mfg. Co., Springfield, O.

Trump Mfg. Co., Springfield, O.

Turbines. (Steam.)
Allia-Chalmera Co., Milwaukee, Wis.
De Laval Steam Turbine Co., Trenton, N. J.
Emerson Steam Pump Co., Alexandria, Va.
Ft. Wayne Electric Worka, Ft. Wayne, Ind.
General Electric Co., Schenectady, N. Y.
Southwark Fdry. & Mchl. Co., Philadelphia, Pa.
Terry Steam Turbine Co., New York, N. Y.
Western Electric Co., New York, N. Y.
Western Electric Co., New York, N. Y.
Westinghouse Machine Co., Pittsburg, Pa.

Turbine Condensers.

Theeler Condenser & Eng. Co., New York, N. Y.

Turntables. Baltimore Bridge Co., Baltimore, Md. Virginia Bridge & Iron Co., Roanoke, Va.

Turpentine.

Tuyeres. (Copper and Bronze.) Ceystone Bronze Co., Pittsburgh, Pa.

Twine.

American Manufacturing Co., New York, N. Y.
Columbian Rope Co., Auburn, N. Y.
Plymouth Cordage Co., North Plymouth, Mass.
Turner Co., J. Spencer, New York, N. Y.
Whitlock Cordage Co., New York, N. Y.

Twine Machinery.
askell-Dawes Machine Co., Bouton, Mass.

Twisting Machinery. Haskell-Dawes Machine Co., Boston, Mass.

Unions. Dart Manufacturing Co., E. M., Providence, R. I. Vacuum Cleaning Apparatus. Blaisdell Machinery Co., Bradford, Pa.

Walves.

Rourbon Copper & Brass Wks. Co., Cincinnati, O. Columbian Iron Works, Chattanoogs, Tena. Frick Co., The, Waynesboro, Pa. General Fire Extinguisher Co., Providence, R. I. Glanorgan Fipe & Evander, Co. Lynchburg, Va. Nattoni, Tube Co., Pittsburg, Pa. Powell Co., Wm., Cincinnati, O. York Mfg. Co., York, Pa.

Varnish.
Berry Bros., Ltd., Detroit, Mich.
Glidden Varnish Co., Cleveland, O.

Veneer Machines. Titus, E. E., Petersburg, Va.

Ventilating Apparatus. (Engineers' and Contractors'.) tractors'.)

Buwer Co., Detroit, Mich.
Burfale Forge Co., Burfalo, N. Y.
Garden City Fan Co., Chicago, Ill.
Peck-Hammond Co., Chichnatt, O.
Sturtevant Co., B. F., Hyde Park, Mass.

Ventilators.

Merchant & Evans Co., Philadelphia, Pa.

Wagons. (Dump.)
Eagle Wagon Works, Auburn, M. T.
Troy Wagon Works Co., Troy, O.

Wall Plaster. King & Co., J. B., New York, N. Y.

Wali Pings. (Galvanised.) Niagara Falls Metal Stamping Works, Niagara Falls, N. Y. Wicks & Co., Milton O., Glen Cove, N. Y.

Wall Ties. Niagara Falla Metal Stamping Works, Niagara Falla, N. Y. Page Woven Wire Fence Co., Adrain, Mich.

Washers. (Ore and Phosphate.) Balley-Lebby Co., Charleston, S. C. Cameron & Barkley Co., Charleston, B. G. McLanahan-Stone Mach. Co., Hollidaysburg, Pa. Washers and Rivets [See Bolts, Nuts, Rivets, Studs and Washers.]

Water Fliters. [See Filters, Water, for Domestic and Industrial Purposes.]

Water Meters. nerican Valve & Meter Co., Cincinnati, O.

Waterprofing. (For Brick Work.)
Barrett Mfg. Co., Philadelphia, Pa.
Carolina Portland Cement Co., Charleston, S. C.
National Boofing Co., Tonawanda, N. Y.

Waterproofing. (For Concrete.)
Barrett Mfg. Co., Philadelphia, Pa.
National Boofing Co., Tonawanda, N. Y.

Waterproof Compound. (Liquid.)
Carolina Portland Cement Co., Charleston, S. C.
National Roofing Co., Tonawanda, N. Y.

Water-Softening Apparatus. (Purifying Water-Solicining Apparatus, (Puritying.)
American Water Softener Co., Philadelphia, Pa.
Dodge Manufacturing Co., Mishiwaka, Ind.
Gem City Boller Co., Dayton, O.,
Kennicott Co., Chicago Heights, Ill.
N. Y. Cont. Jewell Filtration Co., New York, N. Y.
Roberts Filter Mfg. Co., Philadelphia, Pa.
Scaffe & Sons Co., Wm. B., Pittsburg, Pa.
Tucker & Laxton, Charlotte, N. C.

Water Supply Systems. (Town, Home, Rail-Rife Engine Co., New York, N. Y.

Water-Wheels. [See Turbines. (Hydraulic.)].

Water-Wheels. [See Turbines. (Hydraulic.)].
Water-Works Supplies and Appliances.
American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Constr. Co., Philadelphia, Pa.
Bibb Sewer Pipe Co., Macon, Ga.
Blount, C. F., Atlanta, Ga.
Blount, C. F., Atlanta, Ga.
Blount, C. F., Atlanta, Ga.
Coldwell-Wilcox Co., Newburgh, N. Y.
Coldwell-Wilcox Co., Newburgh, N. Y.
Coldwell-Wilcox Co., Newburgh, N. Y.
Columbian Iron Works, Chattanoga, Tenn.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Keystone Pump & Well Eng. Co., Beaver Falls, Pa.
Leadite Co., The, Philadelphia, Pa.
McWane Pipe Works, Lynchburg, Va.
Pomona Terra-Cotta Co., Pomona, N. O,
Stevens' Sons Go., H., Macon, Ga.
U. S. Cast Iron Pipe & Fdry, Co., New York, N. Y.
Welsher, (Recording Lioudi.)

Weigher. (Recording Liquid.) forthington, Henry R., New York, N. Y.

Well Contractors. (Oll, Artesian, etc.) Cook Well Co., The, St. Louis, Mo. Hughes Specialty Well Drill. Co., Charleston, S. C. Sydnor Pump & Well Co., Etchmond, Va.

Well Tools and Supplies. Cook Well Co., The, St. Louis, Mo. Keystone Pump & Well Eng. Co., Beaver Falls, Pa. Williams Bros., Ithaca, N. Y.

Wheels and Axles. Empire Manufacturing Co., Quincy, Ill. Oliver Mfg. Co., W. J., Knoxville, Tenn

Wheelbarrows and Trucks.

Syracuse Chilled Plow Co., Syracuse, N. Y.

Wheels. (Steel and Steel Tired.)

Carnegie Steel Co., Plitsburg, Pa.

Empire Manufacturing Co., Quincy, Ill.

Window Frames and Sashes, (Fireproof.)
Detroit Steel Products Co., Detroit, Mich.
United States Metal Products Co., New York, N. X.
Volgtmann & Co., Chicago, III. Window Guards. (Wire.) [See Wire Goods.]

Windmills. Baltimore Cooperage Co., Baltimore, Md. Caldwell Co., Inc., W. E., Louisville, Ky.

Wire insulating. eneral Electric Co., Schenectady, N. Y.

Wire, (Barbed Wire, etc.) American Steel & Wire Co., Chicago, III. Roebling's Sons Co., J. A., Trenton, N. J. Youngstown Sheet & Tube Co., Youngston

Wire Cloth. (Iron, Steel, Brass, etc.)
American Steel & Wire Co., Chleago, III.
Caldwell & Sons Co., The H. W., Chleago, III.
Diamond Wire Products Co., Columbus, O.,
Meyers Mfg. Co., Fred J., Hamilton, O.,
New Jersey Wire Cloth Co., Trenton, N. 3.
Wight & Co., W. N., New York, N. X.

Wight & Co., W. N., New Yorks, J. E., Detroit, Mich. Bolies Iron & Wire Works, J. E., Detroit, Mich. Buckeye Wire & Iron Works Co., Columbus, O. Cincinnati, Mrg. Co., Chechmati, O. Diamond Wire Froducts Co., Columbus, O. Diamond Wire Works Co., Louisville, Ky. Borur & Co., Baltimore, Md. Dufur, Baggott & Co., Baltimore, Md. Jones & Co., L. E., Baltimore, Md. Meyers Mrg. Co., The Fred J., Hamilton, O. New Jersey Wire Cloth Co., Trenton, N. J.

Wire Netting. American Steel & Wire Co., Chicago, III. New Jersey Wire Cloth Co., Trenton, N. J.

Wire Rope.

American Steel & Wire Co., Chicago, III.

Broderick & Buscom Rope Co., St. Louis, Mo.,

Contractors' Plant Mig. Co., Inc., Buffalo, N. X.

Roebling's Sous Co., J. A., Trenton, N. J.

Williamsport Wire Rope Co., Williamsport, Pa.,

Youngstown Sheet & Tube Co., Youngstown, O.

Wire Rope Clips. in Hoist & Derrick Co., St. Paul, Minn. Wire Rope Thimbles.

Wood Blocks. (For Paving and Factory Floors.)

8. Wood Preserving Co., New York, N. Y. Woodboring Machines.

Chicago Pneumatic Tool Co., Chicago, III. Ingersoll-Rand Co., New York, N. Y. Wood-Fiber Plaster. King & Co., J. B., New York, N. Y.

Wood Pipe. (For Water, etc.) Wyckoff & Son Co., A., Elmira, N. Y.

Woodworking Machinery.
Globes Mcby. Co., Columbia, S. C.
Kline, Lewis T., Alpena, Mich.
Knight Mig. Co., Canton, O.,
Lane Mig. Co., Canton, O.,
Lane Mig. Co., Montpeller, Vt.
Ober Mig. Co., Chagrin Falls, O.,
Shimer & Sons, Samuel J., Milton, Pa.,
Smith-Courtney Co., Richmond, Va.,
Smith Machine Co., H. B., Smithville, N. J.,
Wilmington Iron Works, Wilmington, N. C.,
Vance & Co., J. A., Salem, N. C.

Wrapping Paper.
Berlin Mills Co., Portland, Maine.
Yarn. (Tarred Shal.)
American Manufacturing Co., New York, N. Y.
Columbian Rope Co., Auburn, N. Y.
Flymouth Cordage Co., North Plymouth, Mass.
Whitlock Cordage Co., New York, N. Y.

Ads. marked * appear every other week. Ads. marked † appear in first issue of the month. Ads. marked ‡ not in this issue.

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Abendroth & Root Mfg. Co106 Abrasive Material Co18 Acme Knitting Machine & Nee-	Canners & Packers' Sur Canton Culvert Co Carborundum Co
dle Co	Carborandum Co Cardwell Machine Co Carey Mfg. Co., Philip. Carlton, H E Carlyle Paving Brick C Carnegie Steel Co Carnell, George
Alberger Condenser Co 12 Alberger Pump Co 12	Carlyle Paving Brick C Carnegie Steel Co
Albro-Clem Elevator Co	Carnell, George Carolina, Clinchfield Railway Co Carolina Electrical Co., Carolina Portland Come Carver Cotton Gin Co
Allen, Herbert F. L	Carolina Electrical Co., Carolina Portland Come
Allison, M. M	Cary Spring Works
Aluminum Co. of America 31	Casev-Hedges Co., The. Central Fdry. Co
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American Countries 28 American Cotton Oil Co. 11 Amer. Enam. Brick & Tile Co. 38 American Engine Co	Chesapeake Iron Works. Chesapeake Steamship
American Engine Co	Chicago Bridge & Iron Chicago House Wreckin
American Huhn Packing Co 13 American Locomotive Co 96	Church & Dwight Co Cincinnati Frog & Switch
American Hoist & Derrick Co 2013. American Hunn Pucking Co 18 American Locomotive Co	Ochesapeake Beiting Co. Chesapeake Iron Worke. Chesapeake Iron Worke. Chesapeake Steamship Co. Chicago House Wreckin Chicago House Wreckin Chicago House Wreckin Chicago House Swetc Chachnati Frog & Swetc Cincinnati Iron & Steel Cincinnati Iron & Steel Cincinnati Iron & Co. Cincinnati Mfg. Co. Cincinnati Sheet Metal & Ing Co.
American Pipe & Construc. Co.106 American Process Co	Clark Co., The Geo. P
American Railway Supply Co100 American Rolling Mill Co127	Classified Opportunities.
American Sheet & Tin Plate Co 34 American Spiral Pipe Works 106 American Steel & Wire Co 39	Cleveland Belting & Mch Climax Mfg. Co Clinchfield Coal Corp Clinchfield Fuel Co Clinchfield Portland C
American Steel Dredge Co 99 American Stone Co 88 American Supply Co. of Provi-	Clinchfield Fuel Co Clinchfield Portland C
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tic Railway	Cook's Sons, Adam Cook Well Co
Atlantic Turpentine & Refin-	Co
	Cortright Metal Roofing (Cothran & Cothran Covington Mch. Co
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Babcock & Wilcox Co	Co rescent Belt Fastener Coresson Co., Geo. V rocker-Wheeler Co
Baldwin Equip. & Supply Co. 94 C. Baldwin Locomotive Works, C.	rocker-Wheeler Co ross & Rice, c. o. Mfrs. I rucible Steel Casting Co.
Ball Engine Co	russelle Audit Co urran Elevator Co., Jam utler Mail Chute Co
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	ennison Mfg. Co
Bird & Son, F. W	amond Rubber Co., The amond Wire Products Co
Blair, Holmes	etrich Bros n'aco & Bros. A xie Culvert & Metal Co
Blake & Knowles Steam Pump Works	xie Electro Magnet Co xie Portland Cement Co.
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Buckeye Wire & Iron Wks Co Bucyrus Co	octric Bond & Share Co ctric Speedometer Co ctric Speedometer Co ctric Storage Battery Co. ctro Clock Co., The erson Steam Pump Co., T
Buffalo Steam Roller Co 105 Rm	erson Steam Pump Co., T ory & E'senbrey pire Mfg. Co
Burgwynn, C. P. E	ore of Steam Fump Co., I ory & E'senbrey pire Mfg. Co gberg's Elec. & Mech. Whitpment. P. O. Box \$24 le Perforating Co.
Burn, Harry	le Perforating Co
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Byers Machine Co., John F100 Fair	rbanks, Morse & Co
Caldwell & Sons Co., H. W 4 Fall Callahan Co., The W. P 111 Fare	e City Const. Co
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eld & Ohlo	First Nat'l Bank of Key West First Nat'l Bank of Richmond.	75 Knig 75 Kosn
Co	118 Fiske & Co., Inc	132
Cement Co	Fleet-McGinley Co Florida East Coast Rwy Flory Mfg. Co., S Ford Chain Block & Mfg. Co For Wayne Electric Works	112 La Be
h. Co., J. I	t Flory Mfg. Co., S	101 Lade
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RailwayI Ifg. Co	Foster Co., L. B 14 Foster-Creighton-Gould Co	94 Lawr
Ifg. Co	93 Fostoria Incandes'nt Lamp Co. Fowler, S. H. Franklin Press Co.	87 Leadi
& Tank Co. E Wire Wks.	Franklin Press Co	76 Lebar 26 Co.
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2 Co	17 Fronhling & Robertson	Leffie
orks	Funderburk, O. C	86 Lehig
ron Works	44	Lehm
Tool Co		
witch Co	Galt & Son, John	36 Lewis
etal & Roof	Garden City Fan Co	Lidge
P	Gardner & Howe	Linds:
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	Hoffman, Geo. W	Merchai
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o., The . ‡	Hood, B. Miffilm. 33 Hooven, Owen, Rentschier Co. 4 Hoppes Mfg. Co. 12 Hotel Essex 13 Houston, Stanwood & Gamble	Merritt Meyers M. F Mietz, A
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	Co 6	Milburn Miller-O
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Iron Co 44	Hughes Spec'lty Well Drill. Co.108 Hunt Co., C. W	Milwauk ing Co
Co 34	Hussey & Co., C. G 40	Milwauk Mchy.
The	Houston, Stanwood & Gamble Co	Mchy. Milwauk Missouri
31	Hydraulic Press Brick Co 33	Missouri
Co103 Co110	Hyndman Roofing Co 36	Co Modern Moffatt I
CO 25		Moloney
	Illinois Central Railroad113, 117 Illinois Machinery Co 90	Monigha Monitor Moran F
ment Co. 91 ts Co. 32 20 46 32 47 Powder N, 79, 80, 81	Illinois Machinery Co 90 Improved Equipment Co * Independent Pneumatic Tool	Moran F
ts Co 32	Indestructible Sign Co 98	Morris N
	Industrial Lumber Co †	Inc Morgan Morris M Morse Ch Morse To
	International Creosoting &	Co. Ltd
Powder 18, 79, 80, 81	Construction Co	Mandt &
91	Independent Fneumatic Tool Co. 98 Indestructible Sign Co. 105 India Alkail Works. 15 India Alkail Works. 15 India Alkail Works. 15 Indescoll-Rand Co. 105 International Creecoting 4 Construction Creecoting 4 Construction Filter Co. 15 International Filter Co. 15 International Comment Co. 27 Inter-State Automobile Co. 77 Ironton Portland Cement Co. 24 Iroquois Iron Works, The 15 Intequis Iron Works, The 86 Istimula Canal Com. 86	Murray I Myers, E Myers &
91	Ironton Portland Cement Co., 24	
The 16	Isthmian Canal Com 86	Nashville Nashville
The 18 Co 36 Coss Col-		National
112	J. C. H. Galvanizing Co	
ulpment	Jenkius Bros132	National National National
Co 75	Wm 19	Co National National
7 Co	Win. 19 Johns-Manville Co., H. W. 18 Johnson, E. J. 36 Jones & Co., L. E. 32 Jones & Laughlin Steel Co. 19	National
o.,The.109	Jones & Co., L. E	National National Naylor &
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	Kimbrough & Co., J. T. King & Co., J. B. Kinnear Mfg. Co., The Kirkpatrick Sand & Cement Co Kitson Machine Shop	42	Northern Engineering Works. Northrup, Willard C. Norton Co. Norwalk Brass Co. Nusbaum & Co. S. L. Nuveen & Co., John.
	Kline, Lewis T. Klodt, B. G. Knight Mfg. Co. Kosmos Portland Cement Co.	22 24	Ober Mfg. Co., The Ocones Brick & Tile Co
	Lane Mfg. Co. Langston, J. H. Lathrop & Co., C. P. Lawrence., James C. Layman, E. F. Lea, Henry I.	41 17 87 29 23 22 22	Oconee Firick & Tile Co. Ohio Clay Products Co Ohio Elevator & Machine Co Ohio Locomotive Crane Co Oil City Boiler Works Oid Dominion Land Co Oliver Mig. Co The Wm. J. Otis Elevator Co Otto Gas Engine Co Owen Bucket Co
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h	Harsh-Capron Mfg. Co. Haryland Casuality Co. Haryland Equip. & Supply Co. Haryland Terra-Cotta Co. Standard Terra-Cotta Co. Standard Terra-Cotta Co. Hasson Machine Works. Hasson Masson Machine Works. Hasson Machine Works. Hasson Machine Works.		Raleigh Iron Works Co
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Pace, D. S	
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Raleigh Iron Works Co. 93 Randle Mchy Co. 90 Raymond Bros. Impact Pul.Co. 42 Raymond Mfg. Co. 14 Raymond Mfg. Co. 14 Red Co. 91 Reding & Howard. 92 Reiding Co. 40 Reliance Steel Casting Co. 40 Remington Machine Co. 14 Republic Iron & Steel Co. 8 Richmond Fredericksburg & Federicksburg & Fotomac Railroad 8 Richmond Machine Works. 40 Richmond Safety Gate Co. 21 Ridway Dynamo & Engine	VI
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